DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Indian Health Service
Rockville MD 20852

November 7, 2005

TO: Deputy Assistant Secretary
Office for Facilities Management and Policy

FROM: Director
Division of Facilities Operations

SUBJECT: FY 2005 Energy Report

I am responding to your August 26, 2005 memorandum requesting the FY 2005 Energy Report.

Per your direction, these reports are being sent electronically to Mr. Scott Waldman, Department of Health and Human Services Energy Officer. The reports are organized in the following manner:

I. IHS Annual Energy Narrative Report

A. FY 2005 OPDIV Energy Management Data Report

B. FY 2005 OPDIV Energy Scorecard

D. FY 2005 OPDIV Industrial and Laboratory Facilities Inventory

E. FY 2005 OPDIV Exempt Facilities Inventory

II. IHS Annual Energy Implementation Plan

If you have any questions regarding the reports, please contact CDR Gordon Delchamps, P.E., Office of Environmental Health and Engineering, at (301) 443-1367.

James R. Biasco

James R. Biasco P.E.
Director, Division of Facilities Operations

IHS Annual Energy Narrative Report

I. Management and Administration.

A. Energy Management Infrastructure

1. Senior OPDIV Official

The senior Agency Official is the Director, Division of Facilities Operations. This person supervises the Agency's Energy Coordinator. The Agency Energy Team consists of 12 Area Offices (Aberdeen, Albuquerque, Alaska, Bemidji, Billings, California, Nashville, Navajo, Oklahoma, Portland, Phoenix, Tucson) and 2 Regional Offices (Engineering Service (ES) in Dallas and Seattle). The 12 Area Offices and 2 Engineering Services Offices each have a designated Energy Coordinator who is supervised by the Area Facility Engineers or ES Directors.

Area	Energy Coordinator
Aberdeen	Monica Macek
Albuquerque	Deanne Waconda
Alaska	Gary Kuhn
Bemidji	Victor Mosser
Billings	Robert Biddle
California	Phil Church
ES-Dallas	Suresh Shah
ES-Seattle	Pedro Valverde
Headquarters	Gordon Delchamps
Nashville	George Styer
Navajo	Nate Morris
Oklahoma	Ken McKenzie
Phoenix	George Stevens
Portland	Jai Sung
Tucson	Bob Drummond

2. Agency Energy Team

Aberdeen: A Project Engineer in the OEHE Martin Field Office compiles energy data and enters the data into the database at the end of the fiscal year.

Alaska: Alaska employs an Area energy coordinator to collect and report data to the Tribal Health Organizations (THO's) and IHS Headquarters. The coordinator seeks energy saving program and project opportunities and works directly with the THO Facility Managers to implement energy conservation measures and training. The Alaska Area has concluded six energy audits out of the seven hospital campuses serving Alaska Natives and American Indians in Alaska. These six audits identified $2,400,000 in Energy Conservation Measures (ECM's) that could potentially save $588,000 dollars annually. The Alaska Area has continued to accomplish Energy Conservation Measures (ECM's) this year including the mid-summer commissioning of a ground water cooling system at ANMC in Anchorage. Projects anticipated for the 2005 fiscal year are not as sure due to fiscal restrictions on the Tribal Health Organization (THO) budgets. The MIRAC determined that funding for completion of energy audits will now be up to the individual THO's and not necessarily funded through the M&I funding sources. The collective magnitude of cost needed to address energy needs, approximately 2.4 million dollars reported last year for the audited hospitals, is now required to be sought outside of the IHS M&I Project Pool, or at least supplemented. But of course this does not address all healthcare facilities, but only a fraction of them in Alaska. The annual energy consumption reported here shows increase overall largely due to an increase of natural gas consumption for facility process and heating loads. To a large degree, the ECM's we continue to implement just offset the major increase energy requirements for providing the proper patient environment. During this same time the cost of this energy increased by about 7.6 percent, further compounding the operational budget challenges the THO's are experiencing.
Note an error in reporting of the natural gas energy was discovered and corrected in this year's data.

Albuquerque: The Area Energy Management Program is coordinated through the designated Area Energy Coordinator under the supervision of the Area Health Facilities Director. The Energy Coordinator is responsible for preparing all reports and coordinating activities with the service units, Area Project Engineers, and Area Finance. The Service Unit Facility Managers and Engineers are responsible for managing their energy consumption.

Billings: Burke Helmer, P.E., Energy Coordinator, compiles total dollars spent through WebFRS for each utility in the Billings Area. Average utility rates are calculated using the data from the major facilities within the Billings Area. These are the numbers that are then used to report

to Headquarters. Obtaining direct utility data for each building is currently too time prohibitive, but the Area Office has been tracking actual utility usage for our three hospitals, Lame Deer Health Center, and a few of the smaller clinics for the past couple of years. In addition, we have actively been modifying the automated building control systems to optimize energy efficiency at those buildings as well as been making operational recommendations to the facility staff. This includes as much in-house commissioning as possible with the use of test and balance equipment, i.e. flow hoods, water meters. Training has been integral part of the process.

Navajo: Assign an "Energy Manager" for each service unit. Coordinate energy conservation activities for the service unit. Report quarterly to service unit/NA governing body on progress.

Oklahoma City: The Area Energy Coordinator attended the FEMP Lights Online Training in FY2005. A checklist on Restarting Boilers for Fall After a Lay-Up Period (from the National Board of Boiler and Pressure Vessel Inspectors http://www.nationalboard.org/NationalBoard/News/HeadLineNews/Fall_Boiler_Startup.aspx) was provided to a facility engineer and facility managers and this checklist included items related to energy efficiency as well as safety. The Chief Boiler Inspector at the State of Oklahoma gave a four hour training session on boilers to facility managers and a website for a boiler logbook was provided. Recent changes to the OK Boiler & Pressure Vessel Safety Act that now make the manufacturer's recommended maintenance and operation instructions mandatory for boilers, pressure vessels, and water heaters was mentioned during this training and this relates indirectly to energy conservation.
Energy Awareness Month materials (Smart Energy Choices posters, Lenticular (3D animated) Bookmarks, and Fold over business card carriers) created and produced through the Federal Energy Management Program's "You Have The Power" campaign in 2004 were distributed at our largest hospital.
The Area Energy Coordinator requested in September of 2005 that the IT Department at the Area Office add a link on our website to the Change a Light website (www.energystar.gov/changealight) for the month of October so that visitors to the site could become informed of this program.
The Energy Team consists of the Area energy coordinator, a facility engineer, and facility managers.

Phoenix: Each Service Unit facility Manager is the energy coordinator for their Service Unit. There nine Service Units. All energy information is transmitted to them. They are responsible for reduction of energy and water consumption. The tribal contracted facilities are not included. The operation of these facilities is autonomous and is not a part of the Phoenix Area Energy program. They only report their annual energy consumption.

Portland: In Portland Area Office, a facility engineer serves as an energy coordinator. This individual is responsible for the annual energy reports and the bulk of energy related projects. The energy program information is being disseminated by email and other means.

Tucson: The Energy Management Officer works under the direction of the Area Facilities Engineer. Efforts are coordinated thru periodic meetings with the Facility Managers. In FY 2003, work began on an energy audit that will incorporate LEED for Existing Building criteria. Projects were identified in 2004 and incorporated into new and existing projects.

B. Management Tools

1. Awards (Employee Incentive Programs)

Individual /Energy Efficiency/Energy Management:

LCDR Gordon Delchamps, P.E., C.E.M., Mechanical Engineer IHS Oklahoma City Area

LCDR Gordon Delchamps, a Mechanical Engineer for the IHS Oklahoma City Area, secured a cooperative agreement with the DOE Industrial Assessment Center at the Oklahoma State University to perform a comprehensive energy and water audit at four hospitals and four health centers in Oklahoma and Kansas. The audits were all-inclusive covering the building envelope, mechanical, electrical, lighting, and water systems with the intent of developing projects to reduce energy and water consumption. Included in the audits were high-tech infrared thermographic and vibration analyses of all rotating machinery. The price negotiated for the audits was $55,000 as compared to an estimated $250,000 for a private-sector company. In addition, the total annual energy savings of the recommended energy projects is estimated at $196,000.

LTJG Bret Nickels, Facility Manager
IHS Fort Belknap Hospital and Hays Health Center, Montana

LTJG Bret Nickels, Facility Manager of the Fort Belknap Hospital and Hays Health Center in Montana, installed a new direct digital control (DDC) system at the facilities that has decreased natural gas consumption by 60 percent and electricity consumption by 40 percent since the completion of the project. The new non-proprietary Web-based control system will save an estimated $83,480, annually, almost 50 percent of the total energy bill, while dramatically improving the indoor air quality and comfort level at each facility.

Small Group/Energy Efficiency/Energy Management:
Alex Martinez, Facility Engineer
Richard Gaisthia, Maintenance Mechanical Supervisor
Erma Velasquez, Secretary
Walter Yepa, Maintenance Mechanic
Al Garcia, Maintenance Mechanic
Calvin Pedro, Electrician
Deanne Waconda, HF Engineer/Energy Coordinator Albuquerque Indian Hospital

The Albuquerque Indian Hospital (AIH) Energy Improvement Project was initiated in 1995 as a phased project to upgrade and renovate the existing 59,000 square foot hospital to a modem health care facility. The ongoing project, managed and implemented by this small group of facility personnel, included a new ground source heat pump heating and cooling system consisting of roughly 60 heat pumps of various sizes serving the entire hospital 24 hours per day. Additional upgrades included energy efficient lighting with reflectors and dimming ballasts, LED exit signs, air and water balancing, domestic hot water controls, and new HVAC rooftop units. In FY 2004, the staff worked diligently at upgrading their skills and knowledge of the new systems, and by optimizing the capabilities of the new DDC system, the staff further increased energy and maintenance savings. Overall natural gas consumption has decreased by approximately 50 percent due the implementation of the project, and maintenance man-hours have been decreased by almost 55 percent. In addition, the facility now purchases three percent of its electricity consumption as green, wind energy. The hospital has also been designated an ENERGY STAR® Building.

IHS Alaskan Native Tribal Health Consortium
Division of Environmental Health and Engineering Anchorage, Alaska

The Division of Environmental Health and Engineering (DEHE) within the IHS Alaskan Native Tribal Health Consortium has placed a priority on energy conservation. DEHE conducted energy audits on six hospitals between 2000 and 2002, and has focused on implementing the energy and water efficiency measures recommended. Their success is evident by the dramatic energy savings that have been realized over the last four years. Since FY 2000, energy consumption at the IHS Alaska Area has decreased by 34 percent, and is now 32 percent below the FY 1990 energy consumption baseline. The implemented projects include a mix of large scale projects such as ground water cooling, lighting upgrades and controls, conversion to variable air volume systems, and smaller scale changes such as scheduling modifications, temperature setbacks, and optimization of controllers and strategies.

"You Have the Power" Campaign Energy Champion
Gary Kuhn, Sr. Facility Engineer
IHS Alaskan Native Tribal Health Consortium Division of Environmental Health and Engineering Anchorage, Alaska

Twenty-First Century Citizenship is being fostered by engineers like Gary Kuhn of the Indian Health Service's Alaska Native Tribal Health Consortium who – by incorporating energy and water efficiency into new construction and major renovation projects and conducting audits of all Indian Health Service hospitals throughout Alaska – is advancing the Department of Health and Human Services' mission-critical objectives, saving taxpayers money, and helping protect natural resources for us all.

"You Have the- Power" Campaign Energy Project
Blackfeet Indian Health Service Hospital
Browning, Montana

The Department of Health and Human Services (HHS) Blackfeet Indian Health Service Hospital, originally built in 1937, was recently renovated and awarded the ENERGY STAR® label from the U.S. EPA for energy performance, high indoor air quality, and thermal comfort. Newer additions were designed with state-of-the-art variable-air-volume and direct digital control (DDC) systems. The hospital's maintenance department implements a comprehensive preventative maintenance schedule to take full advantage of the DDC systems and ensure that the building is always running efficiently. These practices save over 100 MWh per year and earned the building the distinction of being the first HHS facility to receive the Mark of Excellence in Energy Performance.

Aberdeen:	An Employee Incentive Program has not been developed.
Alaska:	None.
Albuquerque:	Departmental awards, the Annual Area Director's Awards Program, and Certificates of Appreciation are used to recognize individuals and/or programs who are instrumental in improving energy efficiency. Employees and programs continue to be recognized for their performance. A group of HF employees at the Albuquerque Service Unit and Albuquerque Area were recognized with a conservation award from HHS this past May.
Bemidji:	The White Earth Health Center Facilities staff received an Area Director Award for the Alternative Energy Generator Project. The project allowed the Health Center to lock in on a five year electric rate of five cents a kilowatt hour.
Billings:	The Billings Area Office has continued with the Energy Awards Program open to all employees within the Billings Area. The program has four different award categories that either an individual or a group of individuals can submit a project for. Three of the awards

	are cash awards and the fourth is a Service Unit Award that can receive $25,000 of M/I money to supplement the facility program. All potential award nominations are submitted to the Area Office for review by a registered engineer and must have a payback of three years or less. The projects must then be initiated by the Service Unit with cooperation by the Area Office.
Navajo:	No incentive program exists.
Oklahoma City:	We began communications in FY 05 regarding documentation of items done to conserve energy and water at a health center (since IHS began operating the facility and through 30 Sep 2005) in anticipation of guidance and a nomination for the FY06 Federal Energy and Water Management Showcase Award.
Phoenix:	No incentive programs.
Portland:	On-the-spot awards have been provided to Service Unit employees who have implemented and demonstrated successful energy management policies and practice. Personnel are also nominated for national, agency, regional, or local recognition for outstanding contributions in conserving energy.
Tucson:	None to report.

2. Performance Evaluations

Aberdeen:	Energy Management activities are included in the performance evaluation of the Project Engineer responsible for compiling energy data.
Alaska:	None.
Albuquerque:	Responsibility of the Energy Program is included in the performance evaluation of the Area Office Mechanical Engineer. Other position descriptions and performance evaluations of those implementing the Executive Order do not specifically address energy efficiency, water conservation, or solar and other renewable energy projects. However, such actions are noted in performance evaluations since they are normal to the positions.
Bemidji:	Energy management is part of the position description and duties of the Area assistant facilities Engineer.
Billings:	There are no incentives established by the Billings Area Office.
Oklahoma City:	We continued implementing a strategy to comply with some sections of EO 13123 in FY05 at the Lawton Indian Hospital (via pursuit on LEED certification at the certified level for an expansion project) and at the W.W. Hastings Indian Hospital (with the Technical Assistance from FEMP via Lawrence Berkeley National Laboratory).
Phoenix:	The service unit facility manager's position description does not address energy management.
Portland:	The performance evaluation and position descriptions have been applied for the Area Energy Program Manager.
Tucson:	Energy conservation elements are included in the position descriptions for facility managers.

3. Training and Education

Aberdeen:	Throughout this year a new Area Energy Report form was developed and implemented. All Facility Managers have had training on completing the new form. The training included emphasis on the importance of energy conservation and accurate data reporting.
Alaska:	ANTHC provides energy management and conservation training to staff engineers. ANTHC engineers participate in energy conservation seminars and workshops. Energy conservation elements of HVAC and DDC systems are also covered at these seminars and workshops. Headquarters staff have trained facility managers and service unit staff on energy awareness. The FEMP energy awareness publications and information is channeled to the THO Facility Managers for energy awareness. On-site energy training is conducted for FM and Staff at the regional hospitals.
Albuquerque:	Training is made available to all service unit health facilities maintenance staff. Eight maintenance employees attended various HVAC, DDC, electrical, and plumbing training courses throughout the year. These courses were selected to enhance their skills or to orientate the staff with new equipment/technology. Two HF staff participated in Energy Management courses offered by a local utility provider throughout the year. These courses are a part of the utility's Energy Academy Program and are made available to all of their large corporate customers. Another local controls company continues to offer hands on training on the utilization and installation of their equipment and controls to HF staff. One HF employee attended the West Coast Energy Conference.
Bemidji:	Energy conservation and management training opportunities have been announced to staff.
Billings:	Training is available to all service unit facilities staff for the control and operation of building HVAC systems. The Billings Area utilizes direct digital control for all of its larger facilities. Control system training that incorporates better energy management is provided to facility managers.
Navajo:	DOE-Energy 2005
Oklahoma City:	The Area Energy Coordinator attended Energy 2005 and he attempted to attend DOE's

	Best Practices Steam End User Training Opportunity at Energy 2005 but it was cancelled. The Area Energy Coordinator used the Advanced Lighting Guidelines 2003 and took the FEMP Lights Course online in FY 2005 and encouraged facility managers or the person who works mostly with lighting systems at each facility to consider taking this course from http://www.femplights.com. The Area Energy Coordinator acquired access to experts at the FEMP Lights Advisory Service for several months due to taking this course and encouraged facility managers to let him know if they had questions about lighting since there is significant room for improvement to lighting systems in all of our health facilities not only in terms of energy that could be saved but in terms of the quality, quantity, and controllability of light. The Area Energy Coordinator gave a presentation on Energy Conservation at our 2005 facility managers meeting. The GSA Energy Security Guide Book was provided to facility managers in electronic format. The AEE Basics of Energy Management Online Course was forwarded to facility managers. Energy Star Training Opportunities (Internet-based at no cost) were provided to facility managers from http://www.energystar.gov/index.cfm?c=business.bus_internet_presentations. Post It Notes, Light Switch Covers, Thermometer Cards, Earth Day Posters for April 22, 2005, and Energy Champion Posters were provided to health facility managers, Area Office staff, and in gift bags for children during a “bring your son or daughter to work” day (in support of the FEMP "See Your Energy Use in a New Light" theme in 2005) to raise awareness about energy efficiency at our health facilities. A reminder of the importance of Executive Orders 13101, 13123, 13148, and 13327 (that relate directly to the work we do in facilities) was provided (from http://www.ofee.gov/eo/eo.htm) to managers at a hospital.
Phoenix:	For FY 2005 no formal energy related training was provided for Phoenix Area personnel. The area and service unit personnel are using the Energy Star Web site as a reference.
Portland:	Facilities Managers at each Service Unit routinely discuss energy conservation with staff facility meetings.
Tucson:	Training needs are re-assessed continually and training plans submitted annually. Specific courses included HVAC, air conditioning, appliance, and furnace servicing.

4. Showcase Facilities

Aberdeen:	The Area does not have new or existing facilities or facilities under construction as part of this program.
Alaska:	None.
Albuquerque:	The Albuquerque Indian Hospital was designated as an Energy Star building in 2003 and 2004. Since the hospital has changed its status to an out patient facility only, it is ineligible for further inclusion in the Portfolio Manager. Other forms of recognition will be researched as efficiency continues.
Bemidji:	White Earth health center with the Alternative Energy Generator and total digital control.
Billings:	The Ft. Belknap Service Unit successfully completed a project to retrofit their existing building control systems at both the Ft. Belknap Hospital and Hays Health Center. Included in the project was a commissioning phase that ensured both systems were operating as designed. This has reduced gas consumption by 60% and electricity usage by 40% during the last four months of operation as compared to last year's data.
Nashville:	Extensive energy improvement projects have been conducted at the Nashville Area hospitals. Cherokee Hospital now has additional insulation installed on the roof and stone fascia areas of building. HVAC systems have been refurbished to improve efficiency and are controlled by DDC systems. At Choctaw Health Center a new white single-ply membrane roof was installed with six inches of insulation. New double glazed windows with sun screening were also installed. All roof-top mounted A/C units were replaced with highly efficient units.
Navajo:	N/A.
Oklahoma City:	The new Pawnee Health Center was recently completed by the Pawnee Nation. The facility utilizes a geothermal loop system and exhaust fans with energy recovery coils.
Phoenix:	Phoenix Area does not have a showcase facility to be considered by DOE.
Portland:	None to report for this year.
Tucson:	None to report.

II. Energy Efficiency Performance

A. Energy Reduction Performance

1. Standard Buildings

IHS has been classified as Energy Intensive. There is no data to report on Standard Buildings.

2. Industrial and Laboratory Facilities

IHS has reduced usage from 242,633 BTU/gsf in 1990 to 177,386 BTU/gsf in 2005. This represents a reduction of 27%.

3. Exempt Facilities

Government owned quarters energy data has historically not been included in this report. Quarters are all individually metered and are billed directly to the tenants.

4. Non-fleet Vehicle and Equipment Fuel Use

All fuel consumption data is colleted by GSA through the use of their FAST program.

B. Renewable Energy

1. Self-generated renewable energy

Aberdeen:	The Aberdeen Area does not have self-generating energy sources.
Alaska:	None.
Albuquerque:	An assessment and an energy audit on the performance of the solar energy collection system at the ACL hospital were performed. Based on the recommendations from these reports, a portion of the solar panels will be removed to aid in reducing maintenance costs and improving the efficiency of the overall system. A similar study on the solar collections system is on-going at the Santa Fe Indian Hospital.
Bemidji:	None.
Billings:	There are no projects at this time.
Nashville:	The Nashville Area hospitals have solar collection systems that reduce heating costs of the facilities. When the systems are fully functional, they reduce energy usage up to 10 percent.
Oklahoma City:	The designers of the new Pawnee Health Center estimated (although this has not been verified) that $92,626 (or 64% less than a standard constant volume system with water-cooled chillers including maintenance costs) of energy costs could be saved annually with a geothermal HVAC system. Technical assistance with writing specifications for installing a 10 kW Bergey Excel-S (or similar) wind turbine at the Haskell Health Center (which is in wind power class 3 according to wind maps from the NREL web page) was requested in FY 04 for FY 05 but was not awarded. 13,464 kilowatt-hours per year (48 Giga Joules) of electricity could have been generated from a renewable source and $536 per year could have been saved if $36,857 was spent to install this wind turbine which would have resulted in a payback period of 68.8 years. A similar potential project to install a wind turbine for the W.W. Hastings Indian Hospital was identified but the project was not pursued due to a lengthy payback.
Phoenix:	There is no Self-Generated renewable energy source in the Phoenix Area.
Portland:	None to report.
Tucson:	None to report.

2. Purchased renewable energy

Aberdeen:	The Area does not have this type of contract. The Aberdeen Area does not use purchased renewable energy. Purchased renewable energy is not readily available in this area.
Alaska:	None.
Albuquerque:	The Albuquerque area's major utility provider, PNM, implemented an alternative wind energy program. The Albuquerque Indian Hospital and Santa Fe Indian Hospital, the area's highest users, now purchase a percentage of their electricity from wind energy. PNM reduced electric rates by 4 percent. At a cost of an additional 1.8 cents/kWh, both hospitals still netted a rate reduction. Another electric rate reduction took affect in September 2005. This will allow the area to increase the participation level in the wind energy program.
Bemidji:	None.
Billings:	N/A.
Oklahoma City:	No renewable power was purchased in the OKC Area under competitive contract in FY05.

Phoenix: There are no contracts in place to purchase renewable energy.
Portland: None to report.
Tucson: None to report.

C. Petroleum

	1990			2005			Percent Change
GSF	5,964,788			6,572,538			
Oil (1000 Gal)	1,201	0.20	Gal/GSF	1,207	0.18	Gal/GSF	-8.81%
Oil Cost ($1000)	1,244	1.04	$/Gal	2,112	1.75	$/Gal	68.98%
NG (1000 ft^3)	696,039	116.69	Ft^3/GSF	445,633	67.80	Ft^3/GSF	-41.90%
NG Cost (($1000)	1,757	0.0025	$/$Ft^3$	4,716	0.0106	$/$Ft^3$	319.24%
LPG/Propane (1000 Gal)	1,444	0.24	Gal/GSF	689	0.10	Gal/GSF	-56.69%
LPG/Propane Cost ($1000)	755	0.52	$/Gal	835	1.21	$/Gal	131.90%

Aberdeen: Fuel oil consumption increased from 245,000 gallons in FY 85 to 254,581 gallons in FY 2005. Propane consumption increased from 34,000 gallons to 103,721 gallons in the same time period. The increase is due to a change in fuel source and the increase in the number and size of facilities throughout the Area.

Albuquerque: LPG/propane is used at all facilities in the rural areas where natural gas is not available. Diesel is used on a limited basis and mainly for backup & generator purposes. Propane use at the Zuni and Mescalero Indian hospitals has reduced with improvements made to the boiler systems since the baseline year.

Billings: 1990 – 0 gals propane
2005 – 122,000 gals propane

Oklahoma City: Approximately 4,500 gallons of #2 fuel oil was used in the OKC Area in FY 2005. Data from 1990 is not known.

Phoenix:

Baseline year	1990	fuel oil(gal)	LPG(gal)
		74,000	207,000
Current year	2005	79,700	164,500

The increased use is due to the unusually cold winter.

Portland: Base Year (1990) petroleum based product consumption was 9,342 M-BTU's. Consumption was from Natural Gas and propane. Current year consumption was 4,920 M-BTU's from natural gas and propane.

D. Water Conservation

Aberdeen: The Area has not developed a water conservation program because the infrastructure is not in place. Many buildings do not have water meters to measure consumption and are not charged for water usage. The newly implemented Area Energy Report form includes water and sewer costs currently being charged. Many facilities are being charged a flat rate based off estimates from ten years ago. The water consumption data is an estimate based off data reported for facilities with water meters that are being charged for water based off meter readings.

Alaska: This was analyzed during the hospital comprehensive energy audits conducted in 2002. We are continuing to pursue ECM's during renovation and upgrade O&M activities.

Albuquerque: Water usage continues to be monitored at each service unit. Projects that included equipment replacement or repairs that had an affect on water usage were performed with consideration of water efficiency. Several projects included: digital controls for hot water heaters, low flow toilets, waterless urinals, instantaneous water heaters, water meter installations. The portion of solar panels that will remain at the ACL Hospital will continue to be used for domestic hot water.

Bemidji: Water softener units were installed that utilized reduced volume regeneration cycles.

Billings: N/A.

Oklahoma City: Information on Waterless Urinals was provided to facility managers and they were strongly encouraged to consider this type of technology if they were planning on replacing any urinals in the future.
Information was obtained at Energy 2005 on a new type of water saving device (http://www.barnaclewatersaver.com/) that takes grey water from a bathroom sink and uses it to flush the toilet was forwarded to facility managers and their plumbers were encouraged to consider it.

	Approximately twenty faucets that were leaking were replaced at the Hastings Indian Medical Center. A link to the online Air Force water conservation guide book http://www.afcesa.af.mil/userdocuments/publications/Afpublications/ces/cesc/AF%20Water%20Conservation%20Guidebook.pdf was provided to facility managers along with Water Efficiency Web Pages from EPA & FEMP (http://www.epa.gov/owm/water-efficiency/index.htm http://www.eere.energy.gov/femp/financing/uescs_waterconservation.cfm) and guidance for establishing a baseline, a water efficiency goal, and implementing Water-Conservation Best Management Practices. The Water Management Guide from GSA (http://www.gsa.gov/attachments/GSA_PUBLICATIONS/extpub/waterguide_new.pdf) was provided to facility managers. Opportunities for water conservation were identified for the Anadarko Indian Health Center and the Lawton Indian Hospital via a SAVEnergy Audit that was funded by the Department of Energy in FY03. Water Conservation screening was completed for both of these facilities by collecting information regarding water use and water utilities from previous bills, conducting a walk-through survey with the facility manager to understand how water is used at the sites, documenting equipment that uses water, and inputting the site survey data into a "Watergy" computer program for the analysis. 2 potential conservation opportunities were identified for Anadarko and these include installing 17 low flush toilets and urinals with a simple payback of 8.2 years and installing 2 faucet aerators with a simple payback of 1.1 year. No water conservation strategies resulted from the Watergy screening for Lawton but interviews with the facility maintenance personnel identified that water consumption for the cooling tower was high and a filter in the condenser water loop along with repair of the total dissolved solids controller would reduce the bleed down of the cooling tower and thus reduce the amount of make-up water currently required. A condenser water filtration system which features an electronic backwash controller is still in use for the new cooling tower at Claremore and the amount of rinse water is reduced with the way the screens are cleaned.
Phoenix:	Several tankless/instantaneous water heaters were installed at Desert Visions and Whiteriver. The domestic water heater at PIMC was improved. All these replace the need to let the water run until the hot water arrives.
Portland:	The Portland Area Office provided Service Units with technical support to improve water efficiency. All new construction and remodeling projects, which involves the consumption of water have the water conservation devices installed.
Tucson:	The facilities are replacing outdated toilets, faucets, shower heads and other devices with water saving products. The facilities are reviewing watering schedules and desert landscaping to reduce water consumption. Amount of water spent maintaining landscaping is decreasing through more efficient use. Replacement of irrigation system with lower usage system will be accomplished when funding becomes available. Amount of landscaping to be maintained will decrease when proposed replacement facilities come on line.

III. Implementation Strategies

A. Life-Cycle Cost Analysis

Aberdeen:	Life cycle cost analysis was used for the new facilities constructed at Winnebago and Sisseton. The analysis influenced the decision on building utility systems. The Winnebago facility is heated by steam generated on site with natural gas boilers. The FY 02 ESPC contract with Johnson Controls Inc. included a life cycle cost analysis for energy conservation opportunities at all 17 Aberdeen Area facilities. The contract was implemented at nine locations which were determined to be cost effective for the pay-back time.
Alaska:	None.
Albuquerque:	The project engineers perform a life cycle cost analysis when reviewing products and services.
Bemidji:	Life-cycle cost analysis is required for all contract services and for government procurement of products, services, construction, and other projects to lower energy and water consumption.
Billings:	Life-Cycle Cost Analysis is performed on as-need basis with an ROI greater than 1 as a baseline.
Nashville:	Life-Cycle Cost Analysis can determine the priority of energy projects. The shorter the pay back period the more attractive the project becomes. Most projects that we have funded provide pay back within five years.
Oklahoma City:	The formulas used to calculate Life Cycle Saving and Savings to Investment Ratio were identified by the Area Energy Coordinator as needing correction in our database.
Phoenix:	No life-cycle analysis in FY2005. Procurement of energy efficient products is a standard

practice.

Portland: Life cycle cost analysis is done on large projects to assure 10-years paybacks are anticipated. For energy conservation projects (less than $25,000), technologies with proven paybacks (Energy Star products) are used to assure energy efficiency.

Tucson: Life-cycle cost analysis included in building procurement documents. Energy efficiency and maintenance cost estimates are considered when procuring equipment.

B. Facility Energy Audits

2.2% of space was audited during FY 2005. All totaled, 84% of IHS space has had an energy audit performed since 1992.

Energy Audits Completed in FY-2005				
Area	Inst. No.	Inst. Name	State	City/Town
Albuquerque	11516	PHS Indian Hospital	NM	Santa Fe
Albuquerque	11514	PHS Indian Hospital	NM	Mescalero
Albuquerque	03210	PHS Hospital	NM	Mescalero
Oklahoma City	11537	PHS Institutional Support Fac	OK	Tahlequah
Portland	41249	White Swan Dental Trailer	WA	White Swan
Portland	19712	PHS Indian Health Center	WA	Toppenish

C. Financing Mechanisms

Aberdeen: The Aberdeen Area and Engineering Services-Seattle negotiated an ESPC with Johnson Controls Inc. in July 2001. They started in October 2001 with a 15 year contract period. Smaller facilities have reduced propane costs by purchasing a set a mount of propane prior to the winter season price increases. No energy audits were performed this year.

Alaska: None.

Albuquerque: Energy audits coordinated through the DOE SAVEnergy program are in progress at the Mescalero and Santa Fe Indian Hospitals. DOE is funding and contracting the audits. The Area Office and DOE will be coordinating efforts for two more audits under the same program and funding format.

Bemidji: ESPCs were considered, but viewed as too costly. The investment to savings ratio was not adequate. It was doubtful if some projects would result in sufficient savings to pay the contractors demanded payments.

Billings: ESPCs and UESCs are not available or are not feasible at our isolated locations.

Navajo: N/A.

Oklahoma City: The OKC Area submitted a request for help with a "Sustainable Mechanical and Electrical Upgrades for an IHS. Hospital" project as a result of a U.S. Department of Energy "Call for FY 2005 Technical Assistance Projects". An initial meeting was held in 2005 with three representatives from Lawrence Berkeley National Laboratory regarding the scope of their technical assistance.

Phoenix: No ESPCs.

Portland: None used.

Tucson: Funding for all energy conservation work is currently from M&I or M&M funds.

D. Use of ENERGY STAR® and Other Energy-Efficient Products

Aberdeen: The Aberdeen Area has not implemented a formal policy to utilize ENERGY STAR or other energy efficient products. Appliances and equipment for new construction and renovations are specified to be energy efficient. Facility Managers are encouraged to purchase energy efficient replacement equipment where practical.

Alaska: Information is disseminated to MIRAC and service unit staff relative to energy efficient products.

Albuquerque: Energy efficiency and cost savings are considered by personnel recommending and specifying products for procurement. Information on products is continuously forwarded to the project engineers and a record of these products is kept updated and available in the area HF library. New contracts include a requirement for all contractors to consider energy efficiency and E.O. 13123 in designing and constructing facilities.

Bemidji: Energy efficiency is a routine determinant of product choices.

Billings: All designs provided by the Billings Area Facilities Management staff use MASTERSPEC for specification writing. MASTERSPEC is updated quarterly with the latest energy efficient products.

Navajo: The use and purchase of energy-star equipment and installation on all design, new construction and renovation.

Oklahoma City: A Power Point presentation on the Energy Star Program and Upgrade Manual for Buildings

	(that was previously provided in 2003 by the Area Energy Coordinator to facility managers) was provided again electronically to facility managers as a reminder of the importance of this program. Energy efficient criteria are incorporated into some specifications for new construction and renovation. Some criteria is incorporated into product specification language.
Phoenix:	With all new projects, procurement of Energy Star and other energy efficient products are incorporated into specifications.
Portland:	The Portland Area Indian Health Service Guidelines establishes model operations and maintenance purchasing procedures for increased energy efficiency with the service units.
Tucson:	The use of Energy Star products are considered for most purchases and during the conceptual planning phases of projects. Energy Star products are purchased if feasible.

E. ENERGY STAR® Buildings

Aberdeen:	The Area does not have Energy Star buildings. The new Winnebago Hospital may meet ENERGY STAR building criteria but has not been officially designated as such.
Alaska:	None.
Albuquerque:	The Albuquerque Indian Hospital was redesignated as an Energy Star building in FY 2003 and 2004.
Bemidji:	None.
Billings:	N/A.
Navajo:	N/A.
Oklahoma City:	No buildings met the ENERGY STAR® Building criteria and therefore none were officially designated ENERGY STAR® Buildings in 2005.
Phoenix:	No Energy star buildings.
Portland:	The Sophie Trettevick Health Clinic at Neah Bay Service Unit is eligible to be officially designated as an Energy Star Building. This constitutes 11% of the Portland Area facilities. Completed a project to reinsulate the clinic floor to improve the R-value providing R-38.
Tucson:	None to report.

F. Sustainable Building Design

Aberdeen:	The Area is aware of sustainable design building principles.
Alaska:	Designs for remodeling or additional space require energy efficient materials and equipment. Alaska Area engineers insure that care is taken in selecting equipment that is energy efficient.
Albuquerque:	All new construction incorporates energy efficient materials, equipment, and construction.
Bemidji:	Building design contracts are required to follow sustainable building design principles.
Billings:	While the Billings Area does not actively participate in programs such as the BSCG's LEED Program, the principles of sustainable building design are constantly being applied when economically feasible to do so.
Nashville:	The Nashville Area does not plan to construct any new government owned facilities. Any new facility construction in the Nashville Area is limited to construction by Title I and III tribes. Assistance is offered for design through the Engineering Services office in Dallas. The design is review by both the Area staff and the ES Dallas staff. Design review services have been used by tribes in the past but design services have not.
Navajo:	The Health Facilities Planning Manual is used for all renovation and new facilities construction. Energy efficiency is incorporated into the design as is the use of energy efficient products.
Oklahoma City:	The OKC Area made significant progress on advocating for, and obtaining some progress on, using sustainable building design principles into the sighting, design, and construction of new facilities in FY 2005. We are pursuing LEED certification (to the "certified" level with LEED version 2.1) of a 36,760 square foot Expansion project at the Lawton Indian Hospital and we received the Design Development LEED Submittal for this project in July of 2005. Aspects of the performance criteria in five environmental categories (sustainable sites, water efficiency, energy & atmosphere, materials & resources, and indoor environmental quality) will be complied with in order to achieve the LEED certification. Some of the performance criteria we are pursing include bike racks, designation of high occupancy vehicle use parking spaces in the new parking lot for car/van pools, exterior lighting that meets or provides lower light levels and uniformity rations than IESNA RP 33-99 along with a site photometric plan, documentation per a credit interpretation request that air conditioners that use R-22 are not more than 15% of the total since the other rooftop air conditioners use R407 which has a zero ozone depletion potential and does not contain HCFC's (hydrochlorofluorocarbons), use of building materials that are extracted and manufactured within the Lawton region to reduce the environmental impact resulting from transportation, use of no or low-VOC adhesives, use of no or low-VOC paints and carpets, compliance with Addenda 1995 of ASHRAE Standard 55-1992 to provide for a thermally comfortable environment that supports the productivity and wellbeing on building occupants, adoption of a "green" housekeeping program that allows only non-toxic cleaning

	products for use in the building, and signage that describes the "green" building features and an outreach program to educate building occupants, patients, visitors, and the community on the merits of a green hospital. Erosion & Sediment Control provisions have been included for the design and construction of the new Clinton Health Center and a $1 per therm for the fuel rate input data was questioned as being correct and a flat rate of $0.0579 per kWh for the electric rate input data was questioned as to whether it was correct since a bill showed an average energy cost of $0.06 per kWh and the PSO (AEP) website shows a higher projected rate. Designers of the new Clinton Health Center were asked to correct the total actual watts for the actual lighting power calculation since it lead to the conclusion that the lighting design was much better than code and the lighting designer was asked to eventually sign the compliance statement. The designers were asked to consider T-5 high output lamps (since they have a significantly improved luminary efficiency and optical control when compared to T-8 lamps) or the T-5 linear 28 watt lamp. We were assured that the specified commercial water heaters and the heating water boilers would meet ASHRAE/IESNA Standard 90.1-2001.
Phoenix:	None.
Portland:	All new facility construction and remodeling have used practices and products for energy efficiency and water conservation.
Tucson:	Currently only one facility is under design. The building was reviewed informally for sustainable building concepts and will have more efficient lighting and environmental systems, native vegetation with water efficient landscaping, and reduced stormwater runoff.

G. Energy Efficiency in Lease Provisions

Aberdeen:	The Area is not pursuing this because we have minimal leased facilities. Pursuing energy efficiency in leased facilities is not practical at this time.
Alaska:	N/A.
Albuquerque:	Leased facilities are typically small Health Clinics or Health Stations at the various pueblos. These are typically inclusive of existing buildings which are used for a variety of functions besides health care. When any of these facilities are replaced or new leases are requested, more energy efficient designs are incorporated into the new facilities.
Bemidji:	Not applicable
Billings:	N/A.
Nashville:	Local GSA office incorporates these requirements if a relocation occurs.
Oklahoma City:	The Area Energy Coordinator suggested in the spring of 2005 that consideration be given to adding a Task Activity to the Draft Procedure for Obtaining Public Law 94-437 Leases that would reference Section 403 (e) of Executive Order 13123 "Greening the Government Through Efficient Energy Management" so that when IHS enters into new leases, renegotiates or extends existing leases, we can incorporate lease provisions that encourage energy and water efficiency wherever life-cycle cost-effective. Most leased facilities in the OKC Area have some comparatively simplistic measures (install programmable thermostats or ensure that existing ones are set optimally, install more efficient lighting lamps and ballasts, etc.) that could probably be implemented or that the lessor could strongly be encouraged to implement. Our Realty Consultant from Engineering Services-Dallas was very receptive to this idea and the Area Energy Coordinator volunteered to work on a section of a SFO (Solicitation for Offer) that relates to "Greening the Government" so that future leases can be positively affected.
Phoenix:	None.
Portland:	Nothing to report.
Tucson:	None to report.

H. Facility Efficiency Improvements

Aberdeen:	New DDC control systems were installed at six locations to allow computer controlled heating and cooling systems with schedules and night setback functions. Several construction and renovation projects have been performed this year that have improved energy efficiency including: roof replacements at Kyle Health Center, Wagner Health Center, and Rosebud Hospital; ground source heat pump installations at Mandaree and Twin Buttes Health Stations plus 33 quarters units at Pine Ridge and 3 quarters units at New Town; HVAC controls upgrades at Minne Tohe Health Center; equipment replacement at Pine Ridge Hospital for VFDs, evaporative coolers, boiler burners and controls, and cooling tower packing; and various building upgrades throughout the are including work items such as roofing, new insulation, and lighting upgrades.
Alaska:	We are developing THO Energy Strategies for each THO to get organizational staff members more focused on strategic energy conservation action that will achieve energy goals and positive monetary results.
Albuquerque:	Recommendations from the design AE for the Mescalero Hospital include downsizing of the present boiler system to improve efficiency.

Bemidji:	Boilers were converted from fuel oil to natural gas. Cast iron boilers were replaced with energy efficient staged boiler systems. Lamps and ballasts were replaced with lower energy use models. DDCs were installed and air treatment was regulated. Variable speed HVAC units were installation that used digital controls. Replacing the windows at the Red Lake Hospital with triple pane thermal windows.
Billings:	The Poplar and Wolf Point Health Care Facilities are currently undergoing a change-out of their building control systems with a more robust system that has the capability of energy management.
Navajo:	In current renovation projects boilers have been replaced with energy efficient boilers, cooling towers have been replaced with energy efficient cooling towers that require less energy at start up. Flat plate heat exchanges have been installed.
Oklahoma City:	A steam boiler was replaced at the W.W. Hastings Indian Hospital in Tahlequah in November of FY05 and this new boiler exceeds the combustion efficiency requirement of ASHRAE Standard 90.1-2001. Two semi-instantaneous water heaters (which replaced two water heaters with 800 gallon storage tanks each) were installed at the W.W. Hastings Indian Hospital in Tahlequah and these water heaters comply with the service water heating requirement of ASHRAE Standard 90.1-2001. Thirty light fixtures that had T-12 lamps were retrofitted with T-8 lamps at the W.W. Hastings Indian Hospital. Two Heating Water boilers had combustion analyzed and optimized at the W.W. Hastings Indian Hospital. A return air fan motor on AHU #4 at a hospital was replaced with a premium efficiency motor at the W.W. Hastings Indian Hospital in Tahlequah. Solar tinting material was installed on six windows that are approximately two meters by two meters in size, at the W.W. Hastings Indian Hospital in Tahlequah. Major strides were made on high pressure steam boilers at the Lawton Indian Hospital regarding cleaning of heat transfer surfaces and installation of a new water treatment system to prevent buildup of scale deposits from the relatively "hard" water that comes in to the facility. Construction is underway at the Creek Nation Community Hospital to remove old low-pressure steam boilers and install two new low-pressure steam boilers.
Phoenix:	Phoenix Area has completed most of the energy saving opportunities identified in earlier energy audits.
Portland:	Periodic energy audits are the primary implementation strategy used to determine and fund energy saving opportunities.
Tucson:	In FY 2003, work began on an energy audit that will incorporate LEED for Existing Building criteria. Projects were identified in 2004 and incorporated into new and existing projects.

I. Highly Efficient Systems

Aberdeen:	The Area does not have highly efficient systems other than ground source closed loop heat pump systems. Many of the existing heat pumps are in quarters units which are considered exempt facilities. New heat pumps have been installed in two health stations this year. Future energy consumption data will determine their efficiency.
Alaska:	A ground water cooling (GWC) project was completed at the Alaska Native Medical Center in Anchorage (ANMC). The energy savings is anticipated to reflect in an approximate $50,000 annual savings to the ANMC. Investigation of application of other GWC projects at various locations in the state is anticipated.
Albuquerque:	No information to report.
Bemidji:	None.
Billings:	None to Report.
Oklahoma City:	Local natural resources were identified and a vertical closed-loop ground source heat pump system was designed and installed in FY 05 for the new Pawnee Health Center which enables this facility to take advantage of the natural heat stored underground to provide space conditioning. Status indicators for this system are from positive feedback monitoring devices. Trending capability has been added to the control system in FY 05 along with correction of some zoning problems and the geothermal loops have been cleaned.
Phoenix:	Whiteriver is approximately 80% complete on retrofitting their lighting system to a more efficient system. PIMC has invested in a computerized maintenance management system to increase efficiency and control of their mechanical systems.
Portland:	None to report.
Tucson:	None to report.

J. Off-Grid Generation

Aberdeen:	The Area does not have any off-grid systems.
Alaska:	YKHC is pursuing a feasibility study for a wind turbine application at the Bethel Hospital and other Yukon Delta community clinics.
Albuquerque:	No new information to report.

Bemidji:	Installation of off-grid power generation at White Earth Health Center was completed in 2004. An off grid generator was also added at the Ponehma Health Center on the Red Lake Reservation.
Billings:	N/A.
Oklahoma City:	Although no off-grid generation capability was installed in the OKC Area, installation of small wind turbines were identified during energy audits of 8 facilities. We applied online for technical assistance from FEMP for help with writing specifications to install a wind turbine at the Haskell Health Center in Lawrence, Kansas but the project was not selected.
Phoenix:	No Off-Grid Generation installed.
Portland:	None to report.
Tucson:	None to report.

K. Electrical Load Reduction Measures

Aberdeen:	The Area has no current plans for electrical load reductions beyond what is currently practiced. Local facility managers with emergency generators have the option of using their emergency generators during peak demand periods in cooperation with their local utility company.
Alaska:	Most facilities in Alaska have automatic load management systems to address load reduction during electrical outages/emergencies. Specific measures were implemented at ANMC to reduce non-essential loads to further reduce the peak load of the facility. Similar techniques were accomplished at other hospital locations as well. The DDC systems assist with non-emergency load management also.
Albuquerque:	Each service unit has emergency load reduction plans for their facilities.
Billings:	Gas Generators are installed at most of the major facilities and can be utilized in the event of a power emergency.
Oklahoma City:	A reminder was sent to facility managers in FY 05 regarding the 2001 ALERT (Assessment of Load and Energy Reduction Technique) Presidential Directive to Federal Facilities regarding emergency load reduction measures and the HHS request to IHS that we update our plan. Information from http://www.gsa.gov/Portal/gsa/ep/contentView.do?pf=y&noc=T&channelId=-13908&contentId=10885&programId=8366&pageTypeId=8195&contentType=GSA_BASIC was forwarded to facility managers and suggested as being a useful source of information in the event that we are asked about our existing implementation plan in the near future. Emergency generators are available at some facilities. Manual transfer switches could be used to power more, but not all, of a health facility in the event of a power emergency. The website http://www.gsa.gov/Portal/gsa/ep/contentView.do?pf=y&noc=T&channelId=-13908&contentId=10885&programId=8366&pageTypeId=8195&contentType=GSA_BASIC was forwarded to facility managers for use in the event that we are asked to update our existing implementation plan in the near future.
Phoenix:	The area office will alert all service units within the area when energy reduction is needed. The service units will load the emergency generators, adjust thermostats, shut down all unnecessary and nonessential equipments, turn off lights, etc.
Portland:	Upon notification of a power emergency. The Portland Area Office has alerted all Federal IHS Facilities within the Portland Area. The facilities adjusted building temperatures, turn off lights, and shutting down other nonessential equipment.
Tucson:	During power emergencies, all non-essential personnel will be dismissed and power consumption in affected buildings greatly reduced. The critical facilities will remain operational but with temperature thermostats adjusted to reduce energy.

L. Maintenance Technologies

Aberdeen:	No implementation strategies were used in FY 05. Larger facilities have had vibration, oil, and ultrasonic analysis performed on older major equipment as a predictive maintenance procedure. The testing is not performed at set intervals and not all major or critical equipment is tested.
Albuquerque:	An infrared thermographic camera continues to be used at the Zuni Hospital to assist with establishing MP7i.
Billings:	No projects were implemented for 2005.
Navajo:	The use of MP2 software used for submitting and processing work orders, scheduling preventative maintenance, checking inventory, checking worker hours and productivity, tracking service contracts, and tracking cost and overall budget.
Oklahoma City:	After operation of the new Pawnee Health Center was assumed by the federal government, the temperature set point of water storage tanks were found to be set at 125 degrees F and they were lowered to 117 degrees F to prevent scalding and to save energy. Information on best practices, commissioning, facts, controls, etc. (from http://www.eere.energy.gov/femp/operations_maintenance/) was forwarded to facility managers.

	A medical vacuum system with a non-contacting dry claw design (versus a model that did require vane replacement occasionally and annual removal of end caps to inspect the vanes in order to assure optimum reliability) that requires no maintenance was selected and installed at a hospital in FY 2005. A sample green custodial scope of work developed by Fairchild Air Force Base that is in the Green Purchasing section of the OFEE site under Green Janitorial Products and Services was forwarded to the head of Housekeeping at our largest hospital. The Area Energy Coordinator suggested during review comments for the new Clinton Health Center that we decide when and how the design team planned to convey design team knowledge and intent (architectural/electrical/mechanical) to the owner(and hence the maintenance personnel) per ASHRAE/IESNA Standard 90.1-2001.
Phoenix:	Thermographic analysis is typically conducted on electrical gear at a majority of the hospitals and clinics.
Portland:	None to report.

IV. Data Tables and Inventories

A. FY 2005 OPDIV Energy Management Data Report

See Attachment.

B. OPDIV FY 2005 Energy Scorecard

See Attachment.

D. Industrial and Laboratory Facilities Inventory

Attachment D is a list of Installations with the number of buildings and total installation size.

E. Exempt Facilities Inventory

Attachment E is a list of Installations with quarters and the number of quarters units at that installation.

Attachment A

FY 2005 OPDIV Energy Management Data Report

FY 2005 ENERGY MANAGEMENT DATA REPORT

OPDIV	Indian Health Service	Prepared by:	CDR Gordon Delchamps, P.E., CEM
Date:	11/10/2005	Phone:	301-443-1367

PART 1: ENERGY CONSUMPTION AND COST DATA

1-1. Standard Buildings/Facilities

Energy Type	Consumption Units	Annual Consumption	Annual Cost (Thou. $)	Unit Cost ($)	Site-Delivered Btu (Billion)	Est. Source Btu (Billion)	Est. Carbon Emissions (Metric Tons)
Electricity	MWH	0.0	$0.0	#DIV/0! /kWh	0.0	0.0	0
Fuel Oil	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Natural Gas	Thou. Cubic Ft.	0.0	$0.0	#DIV/0! /Thou Cu Ft	0.0	0.0	0
LPG/Propane	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Coal	S. Ton	0.0	$0.0	#DIV/0! /S. Ton	0.0	0.0	0
Purch. Steam	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	0
Other	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	
		Total Costs:	$0.0	Total:	0.0	0.0	0
Standard Buildings/Facilities (Thou. Gross Square Feet)		0.0		Btu/GSF:	#DIV/0!	#DIV/0!	
				Btu/GSF w/ RE Purchase Credit:	#DIV/0!	#DIV/0!	
				Btu/GSF w/ RE & Sec. 502(e) Credit:	#DIV/0!	#DIV/0!	

1-2. Industrial, Laboratory, Research, and Other Energy-Intensive Facilities

Energy Type	Consumption Units	Annual Consumption	Annual Cost (Thou. $)	Unit Cost ($)	Site-Delivered Btu (Billion)	Est. Source Btu (Billion)	Est. Carbon Emissions (Metric Tons)
Electricity	MWH	138,715.0	$11,126.0	$0.08 /kWh	473.3	1,643.8	23,684
Fuel Oil	Thou. Gal.	1,207.0	$2,112.0	$1.75 /gallon	167.4	167.4	3,340
Natural Gas	Thou. Cubic Ft.	445,633.0	$4,716.0	$10.58 /Thou Cu Ft	459.4	459.4	6,648
LPG/Propane	Thou. Gal.	689.0	$835.0	$1.21 /gallon	65.8	65.8	1,118
Coal	S. Ton	0.0	$0.0	#DIV/0! /S. Ton	0.0	0.0	0
Purch. Steam	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	0
Other	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	
		Total Costs:	$18,789.0	Total:	1,166.0	2,336.4	34,790
Energy-Intensive Facilities (Thou. Gross Square Feet)		6,573.0		Btu/GSF:	177,386	355,459	
				Btu/GSF w/ RE Purchase Credit:	177,386	355,459	
				Btu/GSF w/ RE & Sec. 502(e) Credit:	177,386	355,459	

1-3. Exempt Facilities

Energy Type	Consumption Units	Annual Consumption	Annual Cost (Thou. $)	Unit Cost ($)	Site-Delivered Btu (Billion)	Est. Source Btu (Billion)	Est. Carbon Emissions (Metric Tons)
Electricity	MWH	0.0	$0.0	#DIV/0! /kWh	0.0	0.0	0
Fuel Oil	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Natural Gas	Thou. Cubic Ft.	0.0	$0.0	#DIV/0! /Thou Cu Ft	0.0	0.0	0
LPG/Propane	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Coal	S. Ton	0.0	$0.0	#DIV/0! /S. Ton	0.0	0.0	0
Purch. Steam	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	0
Other	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	
		Total Costs:	$0.0	Total:	0.0	0.0	0
Exempt Facilities (Thou. Gross Square Feet)		0.0		Btu/GSF:	#DIV/0!	#DIV/0!	
				Btu/GSF w/ RE Purchase Credit:	#DIV/0!	#DIV/0!	
				Btu/GSF w/ RE & Sec. 502(e) Credit:	#DIV/0!	#DIV/0!	

1-4. Non-Fleet Vehicles and Other Equipment

	Consumption Units	Annual Consumption	Annual Cost (Thou. $)	Unit Cost ($)	Btu (Billion)	Est. Carbon Emissions (Metric Tons)
Auto Gasoline	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
Diesel-Distillate	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
LPG/Propane	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
Aviation Gasoline	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
Jet Fuel	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
Navy Special	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
Other	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	
	Total Costs		$0.0		0.0	0

1-5. WATER CONSUMPTION, COST AND EFFICIENCY MEASURES

	Consumption Units	Annual Consumption	Annual Cost (Thou. $)
Water	Million Gal.	323.0	$827.0
Best Management Practice Implementation Tracking Data			
Number of facilities* in agency inventory			155
Number of facilities with completed water management plans			Unknown
Number of facilities with at least four (4) BMPs fully implemented			Unknown
*number in the agency inventory, can be buildings, bases, or campuses			

1-6. RENEWABLE ENERGY/RENEWABLE ENERGY CERTIFICATE PURCHASES IN FY 2005

(Only include renewable energy purchases from resources developed after 1990)

Description of *Each* Renewable Energy Purchase (examples below, insert additional rows as necessary for each separate purchase)	Amount Purchased (MWH)	or	Amount Purchased (Million Btu)	State or Region of Generation or Source	End Use Category (Standard, EI, or Exempt)
Electricity from Renewable Source	0.0		0.0		Standard
Renewable Energy Certificates	0.0		0.0		EI
Natural Gas from Landfill/Biomass	0.0		0.0		Exempt
Renewable Thermal Energy	0.0		12,219.0	Alaska	
Other Renewable Energy (describe)	0.0		0.0		
Total All Purchases	0.0		12,219.0		
Total Purchases for Standard Buildings	0.0		0.0		
Total Purchases for Energy Intensive Facilities	0.0		0.0		
Total Purchases for Exempt Facilities	0.0		0.0		

1-7. SELF-GENERATED RENEWABLE ENERGY INSTALLED AFTER 1990

	Consumption Units	Total Annual Energy	Energy Used by Agency*
Electricity from Renewables	MWH	0.0	0.0
Natural Gas from Landfill/Biomass	MMBtu	0.0	0.0
Renewable Thermal Energy**	MMBtu	0.0	0.0
Other Renewable Energy_____***	MMBtu	0.0	0.0

*Energy used by agency equals total annual generation unless a project sells a portion of the energy it produces to another agency or the private sector. It can equal zero in the case of non-Federal energy projects developed on Federal land.

**Examples are geothermal, solar thermal, and geothermal heat pumps, and the thermal portion of combined heat and power projects. Energy savings from geothermal heat pumps should be based on energy savings compared to conventional alternatives like air-to-air heat pumps. If only electricity savings are known, multiply kWh savings by 3,412 to estimate renewable energy BTUs.

***For other renewable energy that does not fit any category, fill in the type, units used, annual consumption and cost, and include any additional information in your narrative submission. For example energy displaced by daylighting technology or passive solar design.

1-8. TOTAL RENEWABLE ENERGY USE AS A PERCENTAGE OF FACILITY ELECTRICITY USE

Renewable Energy Use (BBtu)	Facility Electricity Use (BBtu)	RE as a Percentage of Electricity Use
12.2	473.3	2.6%

PART 2: ENERGY EFFICIENCY IMPROVEMENTS

2-1. DIRECT AGENCY OBLIGATIONS

(Agencies may attach their final OMB Circular A-11 Energy and Transportation Efficiency Management Exhibit in lieu of completing Table 2-1.)

	FY 2005		Projected FY 2006	
	(MMBTU)	(Thou. $)	(MMBTU)	(Thou. $)
Direct obligations for facility energy efficiency improvements, including facility surveys/audits		$2,677.0		$3,030.0
Estimated annual savings anticipated from obligations	24,931.0	$360.0	31,000.0	$435.0

2-2. ENERGY SAVINGS PERFORMANCE CONTRACTS (ESPC)

	Annual savings (MMBTU)	(number/Thou. $)
Number of ESPC Task/Delivery Orders awarded in fiscal year & annual energy (MMBTU) savings.	23,374.0	0 / $0
Investment value of ESPC Task/Delivery Orders awarded in fiscal year.		$56.0
Amount privately financed under ESPC Task/Delivery Orders awarded in fiscal year.		$288.0
Cumulative guaranteed cost savings of ESPCs awarded in fiscal year relative to the baseline spending.		$0.0
Total contract award value of ESPCs awarded in fiscal year (sum of contractor payments for debt repayment, M&V, and other negotiated performance period services).		$1,900.0
Total payments made to all ESP contractors in fiscal year.		$288.0

2-3. UTILITY ENERGY SERVICES CONTRACTS (UESC)

	Annual savings (MMBTU)	(number/Thou. $)
Number of UESC Task/Delivery Orders awarded in fiscal year & annual energy (MMBTU) savings.	0.0	0
Investment value of UESC Task/Delivery Orders awarded in fiscal year.		$0.0
Amount privately financed under UESC Task/Delivery Orders awarded in fiscal year.		$0.0
Cumulative cost savings of UESCs awarded in fiscal year relative to the baseline spending.		$0.0
Total contract award value of UESCs awarded in fiscal year (sum of payments for debt repayment and other negotiated performance period services).		$0.0
Total payments made to all UESC contractors in fiscal year.		$0.0

2-4. UTILITY INCENTIVES (REBATES)

	Annual savings (MMBTU)	(Thou. $)
Incentives received and estimated energy savings	0.0	$0.0
Funds spent in order to receive incentives		$21.0

2-5. TRAINING

	(number)	(Thou. $)
Number of personnel trained/Expenditure	69	$55.0

Attachment B

FY 2005 OPDIV Energy Scorecard

FY 2005 Federal Agency Energy Scorecard

Department/Agency Name	Contact Name and Phone
Indian Health Service	CDR Gordon Delchamps, P.E., CEM
Name of Senior Energy Official	**Signature of Senior Energy Official**
James Biasco, P.E., CEM	

Did your agency . . .	Yes	No	Anticipated Submittal Date
1. Submit its FY 2005 energy report to OMB and DOE by January 1, 2006 (Sec. 303)?	X		November 10, 2005
2. Submit a FY 2006 Implementation Plan by January 1, 2006 (Sec. 302)?	X		November 10, 2005
Did your agency . . .	**Yes**	**No**	**Comments**
3. Implement or continue to use renewable energy projects at Federal installations or facilitate the siting of renewable generation on Federal land in FY 2005 (Sec. 204)? (Report all self-generated renewable energy from projects installed after 1990; refer to Table 1-7 on the Energy Management Data Report)	X		If yes, how many projects and how much energy generated? (Specify unit: MWH or MMBtu) # Projects / Energy / Unit Solar ____ ____ ____ Wind ____ ____ ____ Thermal[1] ____ ____ ____ Biomass ____ ____ ____ Other RE ____ ____ ____
4. Purchase energy generated from new renewable energy sources in FY 2005 (Sec. 204)?[2] (Refer to Table 1-6 on the Energy Management Data Report)	X		If yes, how much: _____ MWH or 12,219 MMBtu
5. Invest direct FY 2005 appropriations in projects contributing to the goals of the Order (Sec. 301)?		X	If yes, how much: $_____
6. Specifically request funding necessary to achieve the goals of the Order in its FY 2007 budget request to OMB (Sec. 301)? (Refer to OMB Circular A-11, Section 25.5, Table 2)		X	If yes, how much: $_____
7. Perform energy audits of 10% of its facility space during the fiscal year (Sec. 402)?	X		What percentage of facility space was audited during the FY? 2.2 % How much facility space has been audited since 1992?[3] 84 %
8. Issue to private-sector energy service companies (ESCOs) any energy savings performance contract (ESPC) delivery orders (Sec. 403(a))? (Refer to Table 2-2 on the Energy Management Data Report)	X		How many? _____ Annual savings (MMBtu): _____ Total investment value[4]: $_____ Cumulative guaranteed cost savings: $_____ Award value: $_____

1 Examples are geothermal, solar thermal, and geothermal heat pumps. Thermal energy from geothermal heat pumps should be determined as follows: Thermal energy = Total geothermal heat transferred – electrical energy used.

2 "New" renewable energy means sources developed after 1990.

3 Should be greater than 100% if all facility space has been audited at least once since 1992.

4 Investment value includes design, materials, labor, overhead, and profit but excludes contractor's financing costs and government's administration costs. Using investment value allows comparison with other traditional execution methods such as appropriated and working capital funded projects.

Did your agency . . .	Yes	No	Comments
9. Issue any utility energy services contract (UESC) delivery orders (Sec. 403(a))? (Refer to Table 2-3 on the Energy Management Data Report)		X	How many? _____ Annual savings (MMBtu):_____ Total investment value[4]: $_____ Cumulative cost savings: $_____ Award value: $_____
10. Incorporate energy efficiency requirements into relevant acquisitions (Sec. 403(b)(3))?	X		
11. Adopt and apply the sustainable design principles (e.g., Whole Building Design Guide, Leadership in Energy and Environmental Design (LEED)) to the siting, design, and construction of new facilities or major (budget line item) renovations begun in FY 2005 (Sec. 403(d))?	X		Number of new building (or major renovation) design/construction projects in FY 2005[5]: 10 Number of these projects that can or will be certified under LEED[5]: 1
12. Provide training to appropriate personnel[6] on energy management (Sec. 406(d))?	X		Number of appropriate personnel trained: 69 Total number of appropriate personnel: 250
13. Implement any additional management tools (Sec. 406)?	X		Check all that apply: Awards: X Performance Evaluations: X Showcase Facilities:_____ Number of Showcase Facilities designated in fiscal year:_____
14. Establish Water Management Plans (WMPs) and implement at least 4 Best Management Practices (BMPs) in at least 20% of agency facilities (Sec. 207, 503(f))?		X	Number of facilities with WMPs and 4 BMPs: Unknown Number of facilities in agency inventory: 155

NOTE: Provide additional information below if a "No" reply is used for any of the questions above.

5&6: No budget request has been made to specifically address energy efficiency projects. Other sources of funding such as Maintenance and Improvement (M&I), Medicare and Medicaid (M&M), and Quarters Return (QR) are used to complete energy projects.

9: IHS has difficulty establishing USECs and ESPCs due to the possibility that a tribe may request to take ownership of federal properties under public law 93-638.

14: IHS Headquarters has distributed WMP and BMP information to all Area Offices. There is currently no reporting mechanism to determine the number of facilities using WMPs and BMPs.

5 Count projects only once, regardless of phase. For example, if in FY 2005, your agency had 10 new building or major renovation projects, of which 2 can be LEED certified, then report 10 and 2, respectively, in the spaces provided. If the project was designed and reported on in response to this question in a previous year, do not report it as a new project in FY 2005, even if construction commenced or continued in FY 2005.

6 Appropriate personnel include the agency energy management team as well as Federal employees and on-site contractors who are energy or facility managers, operations and maintenance workers, design personnel, procurement and budget staff, and legal counsel.

Please enter data from annual energy report pertinent to performance toward the goals of Executive Order 13123	Base Year	Previous Year (2004)	Current Year (2005)	% Change (Current vs. Base)
15. Site Energy Efficiency Improvement Goals (Sec. 202). 1985 Base Year	Btu/Ft^2	Btu/Ft^2	Btu/Ft^2	%
16. Industrial/Energy Intensive Facilities Goals (Sec. 203). 1990 Base Year	242,633 Btu/ Ft^2	180,680 Btu/ Ft^2	178,145 Btu/ Ft^2	27 %
17. Source Energy Use (Sec. 206). 1985 Base Year	485 BBtu	2538 BBtu	2361 BBtu	387 %
18. Water Conservation Goal (Sec. 207). 2000 Base Year	183 MGal	260.4 MGal	323 MGal	76.5 %
19. Renewable Energy (Sec. 204) Energy used from self-generation and RE purchases	N/A	12,219 BBtu	12,219 BBtu	N/A

Abbreviation Key: Btu/Ft^2 = British thermal units per gross square foot
Btu/unit = British thermal units per unit of productivity (or gross square foot when such a unit is inappropriate or unavailable)
MGal = Million gallons
MMBtu = Million British Thermal Units
BBtu = Billion British Thermal Units
RE = Renewable energy
N/A = Not applicable

Attachment D

FY 2005 OPDIV Industrial and Laboratory Facilities Inventory

Area	Installation #	Installation Name	Last Energy Audit	Number of Bldgs	GSF
Aberdeen	11506	PHS Indian Hospital, WINNEBAGO, NE	2000	7	104,836
Aberdeen	11522	QUENTIN N BURDICK MEMORIAL HOS, BELCOURT, ND	2000	4	102,832
Aberdeen	11523	PHS Indian Health Center, FORT TOTTEN, ND	2000	2	4,089
Aberdeen	11524	PHS Indian Hospital, FORT YATES, ND	2000	8	44,375
Aberdeen	11525	PHS Indian Health Center, NEW TOWN, ND	2000	3	15,962
Aberdeen	11545	PHS Institutional Support Fac, PINE RIDGE, SD	2000	4	54,390
Aberdeen	11546	PHS Indian Hospital, RAPID CITY, SD	2000	31	196,162
Aberdeen	11547	PHS Institutional Support Fac, ROSEBUD, SD		6	7,643
Aberdeen	11548	PHS Indian Hospital, SISSETON, SD	2000	11	29,109
Aberdeen	11549	IHS Wagner Health Center, WAGNER, SD	2000	3	36,774
Aberdeen	12669	PHS Indian Health Center, KYLE, SD	2000	2	19,730
Aberdeen	12670	PHS Indian Health Station, MANDERSON, SD		2	1,856
Aberdeen	13170	PHS Indian Hospital, EAGLE BUTTE, SD	2002	6	31,827
Aberdeen	13508	PHS Indian Health Center, WANBLEE, SD	2000	3	10,112
Aberdeen	13509	PHS Indian Health Station, RED SCAFFOLD, SD		1	960
Aberdeen	13510	PHS Indian Health Station, ALLEN, SD		1	960
Aberdeen	13511	PHS Indian Health Station, BULLHEAD, SD		1	960
Aberdeen	14669	PHS Indian Health Station, WAKPALA, SD		2	3,840
Aberdeen	14671	PHS Indian Health Station, SWIFTBIRD, SD		1	1,920
Aberdeen	15386	PHS Indian Health Center, MCLAUGHLIN, SD	2000	3	8,630
Aberdeen	16180	PHS Indian Health Center, FORT THOMPSON, SD	2000	2	19,927
Aberdeen	20148	PHS Indian Health Station, CHERRY CREEK, SD		2	3,264
Aberdeen	20149	PHS Indian Health Station, WHITE HORSE, SD		1	2,368
Aberdeen	20605	PHS Indian Health Station, CANNON BALL, ND		1	1,380
Aberdeen	20606	PHS Indian Health Station, MANDAREE, ND		1	1,381
Aberdeen	20607	PHS Indian Health Station, TWINBUTTES, ND		1	1,380
Aberdeen	20608	PHS Indian Health Center, LOWER BRULE, SD	2000	2	13,335
Aberdeen	41235	PHS Indian Hospital, PINE RIDGE, SD	2000	4	135,500
Aberdeen	41236	ABERDEEN AREA YRTC, WAKPALA, SD	2000	1	31,484
Aberdeen	41237	PHS Indian Hospital, ROSEBUD, SD	2000	2	95,807
Aberdeen	41244	Fort Totten, FORT TOTTEN, ND		1	13,380
Alaska	20145	PHS Indian Health Station, HOOPER BAY, AK		1	1,048
Alaska	30064	PHS Indian Health Station, SELAWIK, AK		1	884
Alaska	30554	PHS Indian Health Station, NOORVIK, AK		1	884
Alaska	30555	ANIAK HEALTH CTR, ANIAK, AK		1	1,288
Alaska	37561	PHS Indian Medical Center, ANCHORAGE, AK	2003	2	382,819
Alaska	41231	ALASKA NATIVE HOSPITAL, KOTZEBUE, AK	2000	2	82,411
Alaska	41232	KIC Quarters Site, KOTZEBUE, AK		1	1,732
Alaska	60634	PHS Institutional Support Fac, ANCHORAGE, AK		10	12,722
Alaska	61087	PHS Indian Hospital, BARROW, AK	2003	5	42,951
Alaska	61088	PHS Indian Hospital, BETHEL, AK	2002	26	197,144
Alaska	61090	PHS Indian Health Station, GAMBELL, AK		1	1,048
Alaska	61092	Mt. Edgecumbe IHS Hospital, SITKA, AK	2002	19	196,945
Alaska	61093	Kanakanak IHS Hospital, DILLINGHAM, AK	2001	14	91,703
Alaska	61095	Former Nulato Clinic, NULATO, AK		1	910
Alaska	61096	PHS Indian Health Station, SAVOONGA, AK		1	884
Alaska	61097	PHS Indian Health Station, TANANA, AK		16	55,772
Alaska	61098	PHS Indian Health Station, UNALAKLEET, AK		1	1,400
Albuquerque	11508	PHS Indian Hospital, ALBUQUERQUE, NM	2003	9	80,359
Albuquerque	11512	PHS Indian Health Center, DULCE, NM		3	6,616
Albuquerque	11514	PHS Indian Hospital, MESCALERO, NM	2005	5	25,890
Albuquerque	11516	PHS Indian Hospital, SANTA FE, NM	2005	9	103,114
Albuquerque	11520	PHS Indian Hospital, ZUNI, NM	1997	5	77,819
Albuquerque	11982	PHS Indian Health Station, LAGUNA, NM	1997	3	6,628
Albuquerque	11986	PHS Indian Health Station, SANTO DOMINGO PUEBLO, NM		2	3,528
Albuquerque	30066	PHS Indian Health Station, SAN FELIPE PUEBLO, NM		1	2,440
Albuquerque	31103	SIPI Indian Dental Center, ALBUQUERQUE, NM	2004	3	14,883
Albuquerque	33115	PHS Indian Hospital, SAN FIDEL, NM	2004	2	61,845
Albuquerque	37558	PHS Indian Health Center, MAGDALENA, NM		1	11,535
Albuquerque	37562	NEW SUNRISE REG TREATMENT CTR, SAN FIDEL, NM	1997	5	13,984
Albuquerque	41228	PHS Indian Health Center, TAOS PUEBLO, NM	1997	1	19,981
Bemidji	11494	PHS Indian Hospital, CASS LAKE, MN	1994	6	50,585
Bemidji	11496	PHS Indian Health Center, NAYTAHWAUSH, MN		1	6,145
Bemidji	11497	Pine Point Health Center, PONSFORD, MN		2	3,360
Bemidji	11498	CHIEF LEADING FEATHER HOSPITAL, RED LAKE, MN	1994	2	80,224
Bemidji	11499	PHS Institutional Support Fac, WHITE EARTH, MN		2	1,670
Bemidji	12664	PHS Indian Health Center, PONEMAH, MN	1994	1	6,492

Area	Installation #	Installation Name	Last Energy Audit	Number of Bldgs	GSF
Bemidji	41230	PHS Indian Health Center, WHITE EARTH, MN		1	77,361
Billings	11501	PHS Indian Hospital, BROWNING, MT	2004	12	145,558
Billings	11502	PHS Indian Hospital, CROW AGENCY, MT	2004	5	125,173
Billings	11503	PHS Indian Hospital-FT BELKNAP, HARLEM, MT	2003	8	80,551
Billings	11504	No. Cheyenne Health Ctr, LAME DEER, MT	2003	5	65,251
Billings	11505	PHS Institutional Support Fac, POPLAR, MT		6	6,774
Billings	11556	PHS Institutional Support Fac, FORT WASHAKIE, WY	2003	5	23,530
Billings	12665	PHS Indian Health Center, HAYS, MT		2	15,159
Billings	12679	PHS Institutional Support Fac, ROCKY BOYS, MT		3	1,368
Billings	14673	PHS Indian Health Center, PRYOR, MT	2003	2	10,620
Billings	16175	PHS Indian Health Center, HEART BUTTE, MT	1982	1	6,886
Billings	16181	PHS Indian Health Center, ARAPAHOE, WY	2003	3	17,214
Billings	20146	PHS Indian Health Center, WOLF POINT, MT		2	20,610
Nashville	11500	PHS Institutional Support Fac, PHILADELPHIA, MS	2002	1	2,400
Nashville	32061	PHS Indian Health Station, CARTHAGE, MS	2002	1	2,440
Nashville	32070	PHS Indian Hospital, PHILADELPHIA, MS	2002	2	58,048
Nashville	41222	NASHVILLE AREA YRTC, CHEROKEE, NC	2002	2	13,331
Nashville	41223	NASHVILLE AREA ADMINISTRATION, CHEROKEE, NC	2002	1	2,400
Navajo	11468	PHS Indian Hospital, CHINLE, AZ	1999	2	108,512
Navajo	11469	PHS Indian Hospital, FORT DEFIANCE, AZ		20	107,791
Navajo	11483	PHS Indian Hospital, TUBA CITY, AZ	1998	30	183,132
Navajo	11485	PHS Institutional Support Fac, WINDOW ROCK, AZ	1983	6	12,742
Navajo	11486	PHS Indian Health Center, WINSLOW, AZ	2000	11	37,801
Navajo	11511	PHS Indian Hospital, CROWNPOINT, NM	1997	7	89,183
Navajo	11517	PHS Institutional Support Fac, SHIPROCK, NM	1999	5	44,471
Navajo	11519	PHS Indian Health Center, TOHATCHI, NM		6	46,842
Navajo	11969	PHS Indian Medical Center, GALLUP, NM	1998	12	172,109
Navajo	11974	PHS Indian Health Center, KAYENTA, AZ	1999	13	27,716
Navajo	11976	PHS Indian Health Station, PINON, AZ	1999	2	5,077
Navajo	11980	PHS Indian Health Station, CROWNPOINT PUEB PINT, NM	1997	4	7,470
Navajo	14677	PHS Indian Health Station, LEUPP, AZ		3	4,660
Navajo	15381	PHS Indian Health Station, DENNEHOTSO, AZ	1983	1	1,262
Navajo	16171	PHS Indian Health Center, MANY FARMS ROUGH ROCK, AZ	1999	1	13,068
Navajo	19713	PHS Indian Health Station, TOADLENA, NM		1	1,262
Navajo	19718	PHS Indian Health Station, HOTEVILLA DINNEBITO, AZ	1979	1	1,262
Navajo	20393	PHS Indian Health Station, GREASEWOOD, AZ	1979	1	2,526
Navajo	20396	PHS Indian Health Station, MANY FARMS ROUGH ROCK, AZ		1	1,265
Navajo	20399	PHS Indian Health Center, FORT WINGATE, NM	1999	1	7,656
Navajo	30549	PHS Indian Health Center, SANOSTEE, NM		1	2,528
Navajo	30550	PHS Indian Health Center, TEEC NOS POS, AZ		1	5,519
Navajo	30552	PHS Indian Health Station, ROCK POINT, AZ		1	3,300
Navajo	30553	PHS Indian Health Station, DILKON, AZ		2	4,016
Navajo	35774	PHS Indian Health Center, INSCRIPTION HOUSE, AZ	1999	1	19,480
Navajo	35775	PHS Indian Health Center, HUERFANO (NAGEEZI), NM	1999	1	18,278
Navajo	37554	PHS Indian Health Center, TSAILE, AZ	1999	2	19,807
Navajo	41238	NORTHERN NAVAJO MEDICAL CENTER, SHIPROCK, NM		3	215,448
Navajo	41248	Ft. Defiance Hospital-New, FORT DEFIANCE, AZ	2004	1	253,656
Oklahoma City	11493	PHS Indian School Health Ctr, LAWRENCE, KS	2004	2	15,992
Oklahoma City	11528	PHS Indian Hospital, CLAREMORE, OK	2004	7	110,403
Oklahoma City	11529	PHS Indian Hospital, CLINTON, OK	2004	11	27,677
Oklahoma City	11533	PHS Indian Hospital, LAWTON, OK	2003	8	88,944
Oklahoma City	11534	PHS Indian Health Center, PAWNEE, OK	2004	7	28,137
Oklahoma City	11536	PHS Institutional Support Fac, TALIHINA, OK	1985	8	134,750
Oklahoma City	11537	PHS Institutional Support Fac, TAHLEQUAH, OK	2005	2	9,410
Oklahoma City	37552	PHS Indian Health Center, ANADARKO, OK	2003	1	20,000
Oklahoma City	37553	W. W. Hastings Hospital, TAHLEQUAH, OK	2004	3	149,932
Oklahoma City	37563	Redbird Smith Health Center, SALLISAW, OK		1	22,930
Oklahoma City	41229	Wilma P. Mankiller Health Ctr, STILWELL, OK		1	37,359
Oklahoma City	41246	New Pawnee Health Center, PAWNEE, OK		1	68,832
Phoenix	11470	PHS Institutional Support Fac, KEAMS CANYON, AZ		3	2,496
Phoenix	11472	PHS Indian Hospital, PARKER, AZ	1982	2	76,136
Phoenix	11473	PHS Indian Medical Center, PHOENIX, AZ	2001	26	269,743
Phoenix	11475	PHS Indian Hospital, SACATON, AZ		5	39,298
Phoenix	11476	PHS Indian Health Station, CASA BLANCA (GRANDE), AZ		1	1,320
Phoenix	11477	PHS Indian Hospital, SAN CARLOS, AZ	2001	10	49,554
Phoenix	11480	PHS Indian Health Center, SCHURZ, NV		9	26,593
Phoenix	11484	PHS Indian Hospital, WHITERIVER, AZ	2001	8	119,223

Area	Installation #	Installation Name	Last Energy Audit	Number of Bldgs	GSF
Phoenix	11488	PHS Indian Hospital, WINTERHAVEN, CA	1982	9	21,766
Phoenix	11507	PHS Indian Hospital, OWYHEE, NV	2001	4	41,916
Phoenix	11550	PHS Indian Health Center, FORT DUCHESNE, UT	2001	5	20,612
Phoenix	11975	PHS Indian Health Center, PEACH SPRINGS, AZ		1	2,399
Phoenix	12660	PHS Indian Health Center, BYLAS, AZ		2	2,136
Phoenix	12661	PHS Indian Health Station, HOTEVILLA DINNEBITO, AZ		1	702
Phoenix	12676	PHS Indian Health Center, LAVEEN, AZ		1	2,900
Phoenix	12677	PHS Indian School Health Ctr, RIVERSIDE, CA		1	3,700
Phoenix	33113	PHS Indian Health Center, CIBECUE, AZ	1983	1	12,146
Phoenix	33114	PHS Indian Health Center, MCDERMITT, NV	1983	1	2,590
Phoenix	37565	PHS Indian Health Station, SUPAI CANYON, AZ		1	2,160
Phoenix	41216	GILA RIVER YRTC, SACATON, AZ		6	39,561
Phoenix	41239	Hopi Health Center, POLACCA, AZ		1	96,840
Phoenix	41241	DENTAL CLINIC, JEDDITO, AZ		1	2,262
Phoenix	41242	PHS Indian Health Station, MOAPA, NV		1	3,605
Portland	11491	PHS Indian Health Center, FORT HALL, ID	2004	3	32,586
Portland	11540	PHS Indian Health Center, CHEMAWA (Salem), OR	2004	3	23,124
Portland	11542	PHS Indian Health Center, WARM SPRINGS, OR	1997	1	576
Portland	11551	PHS Indian Health Center, NESPELEM, WA	2003	5	24,941
Portland	11553	PHS Indian Health Center, WELLPINIT, WA	2004	3	26,709
Portland	19712	PHS Indian Health Center, TOPPENISH, WA	2005	4	51,772
Portland	30067	PHS Indian Health Center, NEAH BAY, WA	2004	4	10,613
Portland	41217	HEALING LODGE OF THE SEVEN NAT, SPOKANE, WA	1995	3	30,999
Tucson	11478	PHS Indian Health Center, SANTA ROSA, AZ	1982	1	3,733
Tucson	11479	Health Center &AreaOffice, SAN XAVIER, AZ	1982	17	48,321
Tucson	11482	PHS Indian Hospital, SELLS, AZ	2004	28	82,924
Tucson	41234	PHS Indian Health Station, PISINEMO, AZ		1	1,134

Attachment E

FY 2005 OPDIV Exempt Facilities Inventory

Area	Installation #	Installation Name	Number of Bldgs	GSF
Aberdeen	11506	PHS Indian Hospital, WINNEBAGO, NE	1	2,060
Aberdeen	11522	QUENTIN N BURDICK MEMORIAL HOS, BELCOURT, ND	91	93,630
Aberdeen	11523	PHS Indian Health Center, FORT TOTTEN, ND	2	2,421
Aberdeen	11524	PHS Indian Hospital, FORT YATES, ND	32	44,335
Aberdeen	11525	PHS Indian Health Center, NEW TOWN, ND	17	17,168
Aberdeen	11545	PHS Institutional Support Fac, PINE RIDGE, SD	54	74,851
Aberdeen	11547	PHS Institutional Support Fac, ROSEBUD, SD	24	65,413
Aberdeen	11548	PHS Indian Hospital, SISSETON, SD	2	4,904
Aberdeen	11549	IHS Wagner Health Center, WAGNER, SD	3	7,870
Aberdeen	12669	PHS Indian Health Center, KYLE, SD	20	27,152
Aberdeen	13170	PHS Indian Hospital, EAGLE BUTTE, SD	10	43,428
Aberdeen	13508	PHS Indian Health Center, WANBLEE, SD	5	5,675
Aberdeen	15386	PHS Indian Health Center, MCLAUGHLIN, SD	4	9,808
Aberdeen	16180	PHS Indian Health Center, FORT THOMPSON, SD	11	15,043
Aberdeen	41235	PHS Indian Hospital, PINE RIDGE, SD	36	68,605
Aberdeen	41237	PHS Indian Hospital, ROSEBUD, SD	51	101,773
Alaska	16182	Nome Quarters Bldg, NOME, AK	1	841
Alaska	41232	KIC Quarters Site, KOTZEBUE, AK	4	55,974
Alaska	41233	NANA Quarters Site, KOTZEBUE, AK	3	19,992
Alaska	61087	PHS Indian Hospital, BARROW, AK	3	62,639
Alaska	61088	PHS Indian Hospital, BETHEL, AK	11	54,956
Alaska	61092	Mt. Edgecumbe IHS Hospital, SITKA, AK	4	8,150
Alaska	61093	Kanakanak IHS Hospital, DILLINGHAM, AK	10	42,048
Alaska	61094	Kotzebue Older Qtrs, KOTZEBUE, AK	5	28,042
Albuquerque	11512	PHS Indian Health Center, DULCE, NM	5	8,041
Albuquerque	11514	PHS Indian Hospital, MESCALERO, NM	7	14,198
Albuquerque	11520	PHS Indian Hospital, ZUNI, NM	27	27,361
Albuquerque	33115	PHS Indian Hospital, SAN FIDEL, NM	18	49,050
Albuquerque	37562	NEW SUNRISE REG TREATMENT CTR, SAN FIDEL, NM	1	1,240
Bemidji	11499	PHS Institutional Support Fac, WHITE EARTH, MN	4	3,391
Billings	11501	PHS Indian Hospital, BROWNING, MT	47	104,987
Billings	11502	PHS Indian Hospital, CROW AGENCY, MT	32	36,893
Billings	11503	PHS Indian Hospital-FT BELKNAP, HARLEM, MT	13	19,376
Billings	11504	No. Cheyenne Health Ctr, LAME DEER, MT	24	35,007
Billings	11505	PHS Institutional Support Fac, POPLAR, MT	13	17,786
Billings	11556	PHS Institutional Support Fac, FORT WASHAKIE, WY	7	7,774
Billings	12665	PHS Indian Health Center, HAYS, MT	6	7,644
Billings	12679	PHS Institutional Support Fac, ROCKY BOYS, MT	9	11,886
Billings	37556	Quarters Compound, LODGE GRASS, MT	9	11,716
Nashville	11500	PHS Institutional Support Fac, PHILADELPHIA, MS	3	4,172
Nashville	11521	PHS Indian Hospital, CHEROKEE, NC	6	8,221
Navajo	11468	PHS Indian Hospital, CHINLE, AZ	96	255,788
Navajo	11469	PHS Indian Hospital, FORT DEFIANCE, AZ	67	99,906
Navajo	11483	PHS Indian Hospital, TUBA CITY, AZ	84	339,023
Navajo	11485	PHS Institutional Support Fac, WINDOW ROCK, AZ	26	37,579
Navajo	11511	PHS Indian Hospital, CROWNPOINT, NM	72	120,146
Navajo	11517	PHS Institutional Support Fac, SHIPROCK, NM	40	86,480
Navajo	11969	PHS Indian Medical Center, GALLUP, NM	2	4,590
Navajo	11974	PHS Indian Health Center, KAYENTA, AZ	48	58,448
Navajo	11976	PHS Indian Health Station, PINON, AZ	1	1,660
Navajo	16171	PHS Indian Health Center, MANY FARMS ROUGH ROCK, AZ	11	16,368
Navajo	19717	Shonto Housing, SHONTO, AZ	3	3,326
Navajo	30550	PHS Indian Health Center, TEEC NOS POS, AZ	3	4,464
Navajo	35774	PHS Indian Health Center, INSCRIPTION HOUSE, AZ	13	33,525
Navajo	35775	PHS Indian Health Center, HUERFANO (NAGEEZI), NM	5	9,224
Navajo	37554	PHS Indian Health Center, TSAILE, AZ	11	28,503
Oklahoma City	11536	PHS Institutional Support Fac, TALIHINA, OK	18	22,980
Phoenix	11470	PHS Institutional Support Fac, KEAMS CANYON, AZ	42	55,196

Area	Installation #	Installation Name	Number of Bldgs	GSF
Phoenix	11472	PHS Indian Hospital, PARKER, AZ	16	22,692
Phoenix	11475	PHS Indian Hospital, SACATON, AZ	8	11,404
Phoenix	11477	PHS Indian Hospital, SAN CARLOS, AZ	26	40,885
Phoenix	11484	PHS Indian Hospital, WHITERIVER, AZ	77	108,979
Phoenix	11507	PHS Indian Hospital, OWYHEE, NV	17	42,398
Phoenix	11550	PHS Indian Health Center, FORT DUCHESNE, UT	8	10,200
Phoenix	11975	PHS Indian Health Center, PEACH SPRINGS, AZ	7	8,438
Phoenix	37565	PHS Indian Health Station, SUPAI CANYON, AZ	2	3,584
Portland	11542	PHS Indian Health Center, WARM SPRINGS, OR	7	11,482
Portland	30067	PHS Indian Health Center, NEAH BAY, WA	9	12,296
Tucson	11482	PHS Indian Hospital, SELLS, AZ	25	55,825

IHS Annual Energy Implementation Plan

I. Management and Administration.

A. Energy Management Infrastructure

1. Senior OPDIV Official

The senior Agency Official is the Director, Division of Facilities Operations. This person supervises the Agency's Energy Coordinator. The Agency Energy Team consists of 12 Area Offices (Aberdeen, Albuquerque, Alaska, Bemidji, Billings, California, Nashville, Navajo, Oklahoma, Portland, Phoenix, Tucson) and 2 Regional Offices (Engineering Services (ES) in Dallas and Seattle). The 12 Area Offices and 2 Engineering Services Offices each have a designated Energy Coordinator who is supervised by the Area Facility Engineers or ES Directors.

2. Agency Energy Team

Aberdeen:	Energy data will be collected and compiled monthly by the Project Engineer in Martin. The data will be analyzed quarterly to determine increases or decreases in energy consumption due to installed improvements, operations, or change in usage.
Alaska:	Alaska employs and Area energy coordinator to collect and report data to the Tribal Health Organizations (THO's) and IHS Headquarters. The coordinator seeks energy saving program and project opportunities and works directly with the THO Facility Managers to implement energy conservation measures and training. The annual energy consumption data will be continued to be collected and reported. Energy Conservation Measures (ECM's) will be continually evaluated and implemented to offset the increasing energy requirements. Some additional energy increases are to be anticipated in the future, since all buildings in Alaska do not yet meet the Indoor Air Quality and Air conditioning requirements for healthcare space.
Albuquerque:	The Health Facilities Program was recently consolidated under the Area. The Energy Coordinator will now directly assist the Facility Engineers and Managers with their energy programs and will financially manage the utilities accounts for all service units.
Oklahoma City:	The Area Energy Coordinator may attend a course on Direct Digital Controls in November of 2005. The Area Energy Coordinator plans to attend an Electrical System Design for Non Electrical Engineers course in November of 2005 and some topics in this course may help lead to electrical improvements related to energy conservation in health facilities. An Interagency Agreement will be utilized in FY 06 to work with a mechanical engineer and an architect from Lawrence Berkeley National Laboratory on sustainability principles at the Hastings Indian Medical Center and this work will result in reductions in energy and water consumption.
Phoenix:	The Area energy program is coordinated by the Area Energy Coordinator. A new Area Energy Coordinator has been assigned and will be developing a new program. Most information is received at the Area and disseminated to the Service Units. The energy audits were funded and done by the Area. The audits were disseminated to the Service Units for implementation. Most projects identified in audit for small facilities were not feasible specially the small projects. Most of the big projects that are feasible are already completed. Also some of facilities are up for replacement and not appropriate to spend funds on. In area of training the Area Coordinator will attend another Energy course. The Phoenix Indian Medical Center has completed major portion the Area energy projects. All energy awareness information has been distributed to the Service Units.
Portland:	A facility engineer has been newly appointed as energy coordinator for the Portland Area. This individual is responsible for the annual energy reports and the bulk of energy related projects. Energy conservations projects are prioritized for construction by the Portland Area Facilities Board.
Tucson:	The Energy Management Officer works under the direction of the Area Facilities Engineer. Efforts are coordinated thru periodic meetings with the Facility Managers. The Area worked with the Sells Hospital to conduct an audit of the existing HVAC system and identified potential energy savings projects by replacing aged equipment. The San Xavier Campus is in the process of replacing existing manual irrigation valves with automatic valves and timers.

B. Management Tools

1. Awards (Employee Incentive Programs)

Aberdeen	The Area will research the development and implementation of an incentive program within existing budgets or from possible cost savings anticipated or achieved
Alaska:	None.

Albuquerque:	Employees and Service Units will continue to be recognized for their efforts in implementing the executive order and for overall performance. The Area Director's Awards Program will also continue to be used as a tool for recognizing HF employees.
Oklahoma City:	Nominations from the OKC Area IHS will be considered for the recently opened Pawnee Health Center for a 2006 Federal Energy and Water Management Award (under either the Federal Award Category or the Special Award Category) because the facility might be a good candidate since the period of eligibility for the 2006 awards is for achievements accomplished in FY2005 (optimizing the geothermal loop, fixing warranty items, adding trending capability, correcting zoning problems, etc.) where the installation has been completed and savings have begun to accrue.
Phoenix:	The new Area Energy Coordinator will investigate an Area awards program.
Portland:	On-the-spot awards will be provided to Service Unit employees who implements and demonstrates successful energy management policies and practice. Personnel at the Area office and Service Units will be nominated for national, agency, regional, or local recognition for outstanding contributions in conserving energy.
Tucson:	None to report.

2. Performance Evaluations

Aberdeen:	The Area Facilities Engineer is responsible for energy management activities. Energy consumption monitoring will be assigned to field staff and be included in their performance evaluations.
Albuquerque:	Responsibility of the Energy Program at the Area level will continue to be included in the Energy Coordinator's performance evaluation. The area will review the requirements to determine changes in future evaluations.
Oklahoma City:	LEED certification will be continue to be pursued in FY06 for a major expansion project at the Lawton Indian Hospital. Compliance with ASHRAE standards, along with sustainability principles via technical assistance from experts at FEMP, will be pursued in FY06 at the W.W. Hastings Indian Hospital for projects involving air handlers, the chiller plant, the HVAC control system, a new building design for a Physical Therapy Building and possible future outpatient clinics such as Pediatrics.
Phoenix:	No evaluations.
Portland:	The performance evaluation and position descriptions will be used/applied for all members of the Area energy program team.
Tucson:	Energy conservation elements are included in the position descriptions for facility managers.

3. Training and Education

Aberdeen:	Training for Area staff in building HVAC control systems will be held in FY06. The training will allow Area Engineers to assist Facility Managers in optimizing the HVAC operation in their buildings. In-house training on collecting, monitoring, and reporting energy data for Facility Managers will be on-going.
Albuquerque:	The area will continue to encourage participation in the local training courses and provide individual training as necessary.
Billings:	Three facility managers and two area office engineers plan to attend training for the Automated Logic Building Control System in November of 2005. This is on-going effort to continue the training and education of the various energy management systems installed within our facilities.
Oklahoma City:	The Area Energy Coordinator plans to download a copy of the Steam System Scoping Tool from http://www.oit.doe.gov/bestpractices/training/steam_training_sessions.shtml for use on evaluating steam systems at a hospital. The Area Energy Coordinator may take the Green Purchasing Course from http://www.golearn.gov/MaestroD/ and may attend a course listed in the FEMP FY2006 Training Catalog and Resource Guide. The Area Energy Coordinator will encourage facility managers to consider attending some one of these courses. The Area Energy Coordinator may download an update to FEDS release 5.0 at www.pnl.gov/FEDS/downup.html. (from the FEDS Development Team at Pacific Northwest National Laboratory) which has a variety of data updates (such as the current DOE discount rate and energy escalation rates) and other enhancements to the software and train himself to use this tool. The Area Energy Coordinator plans to become familiar with 10 CFR 434. The Area Energy Coordinator plans to review eligibility criteria, data needed, and score interpretations for the Energy Star program and the Energy Star Upgrade Manual for Buildings which includes topics such as: business analysis overview, financing, recommissioning, lighting, load reductions, fan systems, heating/cooling, and implementing building tune-up strategies along with "best ways to save". The Lawton Indian Hospital plans to obtain a credit under the innovation and design process for Green Building Education during the pursuit of Leadership in Energy and

Environmental Design (LEED) Version 2.1 certification on the expansion project.
The Area Energy Coordinator plans to provide an overview to Lawton Indian Hospital managers of 2 main ASHRAE standards which are referenced in LEED Version 2.1 which are ASHRAE Standard 62-2001 (Ventilation for Acceptable Indoor Air Quality) and ASHRAE/IESNA Standard 90.1-1999 (Energy Standard for Buildings Except Low-rise Residential Buildings).
The Area Energy Coordinator will encourage facility managers to take some of the Internet-based training sessions offered by the EPA's ENERGY STAR program.
We may invite Dr. Wayne C. Turner, Regents Professor of Industrial Engineering and Management at Oklahoma State University, to give a presentation at our facility managers meeting in 2006 regarding practical applications of energy conservation.

Phoenix: At the annual the Facilities Manager's workshop training on Energy management will be scheduled. The Area coordinator will attend energy management training.

Portland: Annual OEH&E Seminar will include presentation of Area wide energy and water conservation performance at sites. Discussion will include purchase of energy efficient products. The Area Energy Program Coordinator will plan and schedule energy team members to attend trainings.

Tucson: Training needs are re-assessed continually and training plans submitted annually. Specific courses included HVAC, appliance, and furnace servicing.

4. Showcase Facilities

Aberdeen: The Area will have the new Sisseton Health Center completed in FY 06. Follow up will be needed to determine whether it qualify as a showcase facility.

Albuquerque: Showcase facilities will be identified and recommended for recognition if applicable.

Oklahoma City: We plan to consider nominating the new Pawnee Health Center for a 2006 Federal Energy and Water Management Award (under either the Federal Award Category or the Special Award Category) due to the use of geothermal energy and the energy recovery components of the exhaust fans along with the achievements accomplished in FY2005 (fixing warranty items, adding trending capability, correcting the zoning problems, cleaning the geothermal loops, etc.) from when the Government assumed operation since the period of eligibility for the 2006 awards is for achievements accomplished in FY2005 where the installation has been completed and savings have begun to accrue.

Phoenix: Showcase Facilities will be considered in the upcoming design of new facilities

Portland: None to report.

Tucson: None to report.

II. Implementation Strategies

A. Life-Cycle Cost Analysis

Aberdeen: Life cycle cost analysis will continue to be utilized for design of sizable facilities. Energy consumption for new facilities will be monitored to verify accuracy of design analysis. The ESPC included energy savings projects at nine Area facilities. These projects have been analyzed and included in the ESPC to save energy with excellent pay back times. Beginning in FY 06, water consumption and conservation will be a focus for the Aberdeen Area.

Alaska: Life cycle cost analysis is a required element for evaluation of all potential energy projects or ECM's. The 10-year simple payback is a go no-go decision tool and the Life cycle cost is used to prioritize the best use of funding. THE MIRAC funding criteria require this method of project evaluation prior to releasing funds for an energy project.

Albuquerque: Life cycle cost analysis will continue to be used on major projects.

Oklahoma City: An existing HVAC & Electrical Systems Improvement Report for the W.W. Hastings Indian Hospital contained a life cycle cost analysis and compared alternatives for 9 projects and this report will be referenced during design efforts in 2005. We plan to apply LEED compliant whole building design principles to our master planning for new construction in FY05. We plan to prioritize implementation of projects such as reactivating a solar hot water system, lighting upgrades and installing occupancy sensors, installing variable frequency drives on chilled water pumps/cooling tower motor/ hot water pumps, using the cooling tower as a wet side economizer, insulating steam and pressure regulating valves, raising the chilled water supply temperature setpoint, reactivating economizers on rooftop units, implementing night setback controls, and installing carbon dioxide detectors in outpatient waiting rooms. We plan to write specifications for A&E design services in order to comply with the building envelope/HVAC systems/service water heating/power/lighting aspects of ANSI/ASHRAE/IESNA Standard 90.1-2001 (Energy Standard for Buildings Except Low-Rise Residential Buildings) and to comply with ASHRAE Standard 62-2001 (Ventilation for Acceptable Indoor Air Quality).

Phoenix: Life cycle cost analysis will be included in future Facility Condition Assessments.

Portland: Life cycle cost analysis is done on large projects to assure 10-years paybacks are anticipated. For energy conservation projects (less than $25,000), technologies with proven

	paybacks (Energy Star products) are used to assure energy efficiency.
Tucson:	Life-cycle cost analysis included in building procurement documents. Energy efficiency and maintenance cost estimates are considered when procuring equipment. Currently, the Sells Hospital is in the process of replacing outdated mechanical equipment with high efficiency equipment. This decision was supported with a Facility Condition Assessment that was completed in 2003.

B. Facility Energy Audits

IHS plans to continue auditing at least ten percent of facility space on an annual basis.

C. Financing Mechanisms

Aberdeen:	The Area ESPC with Johnson Controls Inc. is a 15 year contract beginning on October 1, 2001. The initial first year investment by Johnson Controls Inc. is nearly $2,000,000 to upgrade HVAC equipment and control systems at six locations and lighting retrofits at nine locations. The energy savings at these locations was estimated at 23%. These energy savings are estimated to be about the same in FY 06. Beginning in FY06 the Aberdeen Area will being a buy-out process for the smaller facilities that have not achieved the estimated energy savings due to expansions, renovations, and changes in operations. A schedule for energy surveys/audits will be developed in FY06.
Alaska:	ESPC's are not the choice of the THO's in Alaska.
Albuquerque:	Perform SAVEnergy audits at Taos and Zuni hospitals.
Oklahoma City:	We do not plan to use any ESPC's in FY06. The U. S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Federal Energy Management Program, selected our "Sustainable Mechanical and Electrical Upgrades for an I.H.S. Hospital" project for help as a result of our online submission from their Call for FY 2005 Technical Assistance Projects. Technical assistance on our project will be provided by Lawrence Berkeley National Laboratory. We will be doing a 50/50 cost sharing with our agency and DOE via an interagency agreement.
Phoenix:	None.
Portland:	None to report.
Tucson:	The Tucson Area applied for joint funding from the DOE for an energy audit.

D. Use of ENERGY STAR® and Other Energy-Efficient Products

Aberdeen:	Many new products are by default ENERGY STAR or energy efficient products. The Aberdeen Area will continue to encourage the specification of energy efficient products in all new construction, repair, renovation and equipment replacement projects where practical by supplying product specification language.
Alaska:	ANTHC engineers work with the THO's Facility managers to evaluate project specifications and purchases to insure the most energy efficient models are considered in the procurement process.
Albuquerque:	The area will continue to encourage all staff to consider energy efficiency when procuring and specifying products for construction and renovation.
Oklahoma City:	We will strive to further promote ENERGY STAR® and Other Energy-Efficient Products in 2006. We will encourage that EZSave Monitor Manager, available from the Energy Star website, be activated on networks in health facilities or individually so that computer monitor settings will be adjusted to the most energy efficient level.
Phoenix:	With all new projects, procurement of Energy Star and other energy efficient products are incorporated into specifications.
Portland:	The Portland Area Indian Health Service Guidelines establishes model operations and maintenance purchasing procedures for increased energy efficiency with the service units.
Tucson:	Energy Star products are reviewed for all maintenance and project activities.

E. ENERGY STAR® Buildings

Aberdeen:	The Sisseton Health Center, when completed in FY 06 may qualify. Follow up will be needed to determine its eligibility and official designation.
Albuquerque:	The area will continue to utilize the Portfolio Manager to determine if any facilities are eligible for designation as an energy star building.
Oklahoma City:	We can advocate for buildings to meet the ENERGY STAR® Building criteria and become officially designated ENERGY STAR® Buildings in 2006.
Phoenix:	None.
Portland:	Plan to continue promoting ENERGY STAR Building concepts at all Service Units.
Tucson:	None to report.

F. Sustainable Building Design

Aberdeen:	Sustainable building design principles will continue to be considered for all future construction projects.
Albuquerque:	Staff will be encouraged to utilize all applicable guidelines and principles regarding energy efficiency into the siting, design, and construction of new facilities.
Oklahoma City:	We will continue to advocate in FY06 for compliance with ASHRAE/IENSA Standard 90.1-2004 (Energy Standard for Buildings Except Low-Rise Residential Buildings) along with other sustainability principles from sources such as the whole building design guide and the Office of the Federal Environmental Executive. We plan to make a concerted effort to work with procurement and facility managers to begin compiling with elements (Plumbing Fixture and Equipment, HVAC and Air Distribution) of http://www.wbdg.org/design/greenspec_div.php?cn=4.3.4&cx=0&d=15 by incorporating the model specification language even in our small local projects. We are pursuing LEED certification (to the "certified" level with LEED version 2.1) of a 36,760 square foot Expansion project at the Lawton Indian Hospital and we should be very close to achieving this by the end of FY 06.
Phoenix:	Sustainable building design principles will be considered in new facilities.
Portland:	The Area office will continue emphasizing the use of products and practices for energy efficiency and water conservation on new facility construction and remodeling projects.
Tucson:	Sustainable design principles are applied to projects to include renovations and new construction.

G. Energy Efficiency in Lease Provisions

Aberdeen:	The Area will not be pursuing energy efficiency in leased facilities because we have minimal leased facilities. Staff utilizing these facilities will be encouraged to perform basic energy conservation practices such as turning off lights and equipment when not in use, maintaining building temperatures, and carpooling.
Albuquerque:	Energy and water efficiency will continue to be considered when renegotiating or extending leases.
Oklahoma City:	We plan to work with our Realty Consultant and Lease Contracting Officer to edit an existing SFO so that energy and water efficiency can be incorporated, and therefore receive consideration, when the OKC Area enters into new leases or renegotiates or extends existing leases in FY06 and beyond.
Phoenix:	None.
Portland:	None to report.
Tucson:	None to report.

H. Facility Efficiency Improvements

Aberdeen:	The Aberdeen Area will receive training on HVAC control systems to continue to improve the efficiency of building HVAC operations. Future building repair, renovation, and equipment replacement projects will incorporate energy efficiency improvements including lighting upgrades, heat pumps, HVAC upgrades, and thermal efficiency improvements such as roof replacements, window replacements, and additional insulation.
Albuquerque:	The service units will be encouraged to explore projects for energy efficiency versus routine repairs/preventive maintenance and to coordinate those opportunities with the area.
Oklahoma City:	I plan to download a copy of the Steam System Scoping Tool from http://www.oit.doe.gov/bestpractices/training/steam_training_sessions.shtml and use it at a hospital to identify opportunities for improvement. A study was performed in a prior fiscal year at the W.W. Hastings Indian Hospital in Tahlequah to determine the adequacy of both the mechanical and electrical systems and the findings of this study will be considered in FY 06 to set priorities and make decisions on future equipment upgrades. Chillers that have a low kW per ton are expected to replace centrifugal chillers with constant speed pumping at the W.W. Hastings Indian Hospital in FY 06.
Phoenix:	Most of these activities have been previously implemented in prior years.
Portland:	The Area office has a plan to conduct energy audits on several Service Unit facilities to determine energy saving opportunities.
Tucson:	In FY 2003, work began on an energy audit that will incorporate LEED for Existing Building criteria. Projects were identified in 2004 and incorporated into new and existing projects.

I. Highly Efficient Systems

Aberdeen:	Highly efficient systems other than ground source closed loop heat pumps are difficult to implement given our remote locations, extreme weather, and sparse population per land area.
Albuquerque:	The Pueblo of Taos is performing a study on the applicability of a wood-fired bioenergy combined heat and power system. If feasible, service would be made available to the Taos hospital.

	The hospital and area will consider the benefits of participating in the system.
Oklahoma City:	There are no plans to install combined cooling, heating, and power (CHP) systems in the OKC Area. Some highly efficient systems are planned for some new facilities. Lighting systems at the new Clinton Health Center are to comply with ASHRAE/IESNA Standard 90.1-2001 and the expansion project at the Lawton Indian Hospital will achieve LEED certification.
Phoenix:	U&O mechanical system will be upgraded to include computed maintenance management and improvements to the HVAC system.
Portland:	None to report.
Tucson:	None to report.

J. Off-Grid Generation

Aberdeen:	The Area does not plan to have any off-grid systems at this time. Research is needed to determine the feasibility of these systems for the Aberdeen Area.
Alaska:	YKHC is pursuing a feasibility study for a wind turbine application at the Bethel Hospital and other Yukon Delta community clinics. ANTHC Area Energy Coordinator is assisting in the technical and economic analysis and planning for anticipated project(s).Data analysis has not yet been completed.
Albuquerque:	Will continue to take advantage of alternative systems where applicable.
Oklahoma City:	An off-grid alternative is offered by a large electricity provider, Oklahoma Gas & Electric, via 34 wind turbines that generate power that is fed into the OG&E power grid but it is highly unlikely that we will be able to afford the price premium. The wind power option costs $.02 per kWh (in addition to OG&E's standard charge for electricity) and is sold in 100 kWh units. It is highly unlikely, due to the economics and viability, that installing our own small wind turbines will be pursued.
Phoenix:	None.
Portland:	None to report.
Tucson:	None to report.

K. Purchased renewable energy

Aberdeen:	The Aberdeen Area currently has no plans for purchased renewable energy at this time. Renewable energy is currently not readily available in the Aberdeen Area. The Rosebud and Oglala Sioux Tribes are considering the construction of wind farms. If these systems are completed, the local service units may be able to utilize energy generated from them.
Alaska:	Not applicable to Alaska.
Albuquerque:	The Area is working with the Public Service Company of New Mexico to either add installations to the wind energy program or increase the present purchasing percentage of alternative energy. A second electric rate reduction will help balance the additional cost.
Navajo:	Would like to implement survey for area wide study on geothermal installations at major facilities.
Phoenix:	There are no plans in purchase power under competitive contracts.
Portland:	None to report.
Tucson:	None to report.

L. Electrical Load Reduction Measures

Aberdeen:	The Aberdeen Area will continue to investigate load reduction measures. Utilizing generator power during peak demand periods may not be cost effective given current fuel prices.
Albuquerque:	The area will assist the service units during emergencies. Service unit plans will be reviewed to ensure appropriateness and update as needed.
Oklahoma City:	We plan to review and update our existing plans from the 2001 ALERT (Assessment of Load and Energy Reduction Technique) directive for the teams that are in place at our hospitals and health centers and investigate opportunities for possible additional measures during the FY06 heating season and prior to the FY06 cooling season.
Phoenix:	The area office will alert all service units within the area when energy reduction is needed. The service units will load the emergency generators, adjust thermostats, shut down all unnecessary and nonessential equipments, turn off lights, etc.
Portland:	The Portland Area Office is ready to implement the President's Memorandum of September 26, 2005.
Tucson:	Critical circuits have been identified as part of an electrical audit conducted in 2004. A project is under development to prioritize the circuits in order to provide available electrical load to the higher priority circuits such as operating and emergency rooms.

M. Water Conservation

Aberdeen:	The Aberdeen Area is in the process of identifying facilities without water meters so that a metering implementation plan can be created within existing budgets. Metering plans will be developed for those facilities with existing working meters.
Alaska:	Energy audits recently conducted at six of the seven hospitals identified energy conservation measures(ECM's) to include addressing water conservation. ECM's are then bundled together with other projects and accomplished.
Albuquerque:	The area plans to assess the possibility of retrofitting all sinks, showers, and toilets to meet a new city ordinance on water reduction for the Santa Fe hospital. Additional projects and improvements will be reviewed at the remaining facilities.
Navajo:	install restricted water flow devices at sinks, showers, etc. Install infrared sensors at hand washing locations.
Oklahoma City:	Approximately fifteen automatic sensing type hand washer devices are planned to be installed in restroom sinks at the Hastings Indian Medical Center. We will investigate locations for potential installation of a new type of water saving device (http://www.barnaclewatersaver.com/) that takes grey water from a bathroom sink and uses it to flush a toilet. We will attempt to implement some of the FEMP Best Management Practices at our facilities in FY06 and we will attempt to model our water efficiency plan so that it is similar to the plan from the National Renewable Energy Laboratory dated January, 2003. We plan to also use applicable portions of the Air Force Water Conservation Guidebook which is referenced in the NREL water efficiency plan. Xeriscaping, a systematic concept for saving water in landscaped areas, will be encouraged if landscaping projects are done.
Phoenix:	None.
Portland:	The Portland Area Office will continually emphasize the Water Conservation Program to improve efficient use of water.
Tucson:	A landscape plan is in the conceptual development phase. The project will reduce water consumption by replacing grass areas with desert vegetation and natural landscape at each of the campuses.

N. Maintenance Technologies

Aberdeen:	An equipment replacement plan has been created for each service unit in the Aberdeen Area. The Aberdeen Area has been concentrating on ensuring that required preventive/predictive maintenance is being performed. Maintenance technologies may be employed as tools to determine life expectancy of equipment as the equipment replacement plan and predictive maintenance procedures develop.
Albuquerque:	Additional projects where the benefits of the IR camera can be used will be pursued.
Oklahoma City:	A preventive maintenance software package from a company named TMA is planned to be procured in 2006 for use by biomedical and facility engineering at our health facilities. We plan to encourage facility managers in 2006 to use the results of the Infrared Thermographic analysis (roofs and electrical panels) and Vibration analysis (motors & fans) that were previously done at 8 facilities in order to find more energy saving opportunities. Vibration "signatures" were examined and compared to known signatures of problems. A life cycle cost analysis for the purchase of infrared thermography and vibration analysis equipment for use at our facilities was previously completed and we will attempt to explore justifying the purchase and use of similar equipment. We plan to make progress toward upgrading air handlers at one hospital to meet the intent of ASHRAE Standard 622001 which requires minimum maintenance items, activities, and frequencies per figure 5 of table 8-1 in the O&M section of this standard.
Phoenix:	Thermographic analysis of the roof system at the Whiteriver Hospital is anticipated.
Portland:	None to report.
Tucson:	None to report.